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GREAT BRITAIN NOW USING NO FOODSTUFF FOR DISTILLING LIQUORS OR BREWING BEER.

At a recent meeting in Washington, after Mr. Herbert Hoover had stressed the importance of saving the foodstuffs for our allies, someone anxious to create friction asked if it was fair to suggest to the American people to save foodstuffs for England when England was using up such a vast quantity of foodstuffs for the manufacture of whiskey and beer. Mr. Hoover replied that no foodstuffs were now being used in England for distilling whiskey, and that the alcoholic content of beer had been reduced to about 2 per cent., so that practically England had eliminated the use of foodstuffs for making whiskey and beer.

Wishing to be certain as to the correctness of this statement, the MANUFACTURERS RECORD wrote to Mr. Hoover to know if he had been rightly understood. In reply we have a letter from the United States Food Administration, signed by Mr. S. Knox Kreutzer, in which he says:

> Your letter of the eighth instant received and contents noted. I have referred the letter to Dr. Kellogg for the information you desire. He wishes me to give you the following statement:
>
> "There is no food used for production of distilled liquors, and the beer made from malt prepared previous to February of this year has not only been reduced to one-third of the original quantity made, but has also been materially reduced in alcoholic contents, most of it to about 2 per cent."

In another letter Dr. Kellogg wrote:

> The statement you make in the letter is practically true, inasmuch as beer is being manufactured in England from that malt which was made previous to February. Since that time (February) no malt has been allowed to be manufactured. VERNON KELLOGG.

AMERICA, FIRST, LAST AND ALWAYS.

If there is one publication in the country which without fear or favor is fighting through its nation-wide circulation the battles of Democracy, that paper is the MANUFACTURERS RECORD, published at Baltimore, Md. In every issue it literally skins the Germans, both in Germany and America, and after skinning them rolls up their hide into a parched, blistered bit of pelt and hangs it out for the vultures to pick upon.—Clarksdale (Miss.) Daily Register.

Chemistry Coming Into Its Own, But Not Yet Adequately Appreciated.

NEXT to the work of creation itself, possibly the most marvelous achievements which have been wrought in material things on this planet have come as a result of the work of the chemist. Indeed, chemistry would seem to come nearer to truly creative work in material things than anything else of which man knows.

Leading in all human progress is the chemist. Whether it be dealing with the soil, increasing its fertility and enlarging the output of foodstuffs; whether it be in extracting fertilizers from the air with which to save civilization in the years to come from starvation by lack of food; whether it be in the creation of explosives or the making of dyes, the production of medicines or the thousand and one other things which enter into every phase of human activity, chemistry is the dominating power.

In olden times—and indeed by many people of today—chemistry is sometimes associated with apothecary shops. For many years people thought that the chemist was a druggist or apothecary, and there are still some people in the land who associate these interests and do not realize the broader work of the chemist in every line of human endeavor.

Without the chemist there could be no agricultural advancement; without the chemist there could be no manufacturing growth; without the chemist there could be created none of the drugs and medicines to alleviate human suffering. It is, however, largely due to the utilization of chemistry in the creation of industries, agricultural and manufacturing, to which the world is now giving its greatest attention.

We have entered a world war which is in reality a war of chemistry and mechanics, largely of chemistry. When Germany invaded Belgium it awakened the world to a realization of the fact that this country, as others, had for years been dependent upon German chemistry for myriads of things which should have been produced at home. We were instantaneously cut off from a supply of potash, though we should have searched the world for potash or produced it from by-products, as we are now beginning to do. We were cut off from dyes, though there are more resources in this country for dye-making than Germany ever dreamed of having. We had permitted ourselves to be handicapped, and had we at that time been forced into war our aid would have of necessity been very small, because chemistry had not made it possible for us to do the things which are now essential to maintain war.

Within the last three years, however, the chemists of this country have almost been born anew or, rather, a new birth has come to chemistry. Thousands of chemists have concentrated their attention with untiring zeal upon the opening up of new avenues for producing the things which heretofore were brought from other lands. They are seeking to make this country independent of Germany, to make it self-reliant and self-contained, and to create here a spirit of recognition of the work of the chemist, so that the whole country may come to see that without chemistry there could be no progress; that without chemistry we would be completely destroyed; that without chemistry we would ultimately starve and our manufacturing interests be lost.

Chemistry is the great magic wand that touches the dead materials furnished by nature and quickens them into life-giving power for the individual and for the nation.

It is well, therefore, that the Chemical Exposition which next week is to be held in New York will, as the preceding expositions have done, draw tens of thousands of men of science and men of money together, that in the superb exhibits of materials and of products may be found opportunities for studying what has been done and what may be done. Every manufacturing enterprise in the country should be represented at that exposition by one or more of its officers, and especially by any connected with it whose position or whose work is given to chemistry.

This exposition will be the great clearing-house for information on chemistry. It will open a vast store of knowledge available to those who study what is represented there, but its work will be almost without value to manufacturing concerns who are so narrow-minded as not to appreciate what chemistry means. Some lumbermen think that they are merely cutters of wood and have no conception of what chemistry means to the lumber industry. Some cotton-mill manufacturers think of their industry merely as the buying of raw cotton and turning out cotton goods, without an adequate conception of how chemistry enters into every avenue of their work, from the production of the cotton itself to the last movement of the staple through the mill. Some cotton-oil people have not adequately grasped the fact that their industry is only in the infancy of its potentialities through the aid of chemistry. Some iron and steel and coal people do not adequately understand the vital relation of chemistry to their industry, and so they do not themselves take an active part in studying what chemistry is doing.

There are untold sources of raw materials for the chemical industry in this country, and especially in the South, but there are some railroad people in the South who have had so little conception of the relation that chemistry bears to the development of their own territory that they have thought of chemistry as having no bearing whatever on their section. Fortunately, with the processes of the sun men's minds are broadening on this, as on many other questions, and the number of people who have not realized the meaning of chemistry is steadily

decreasing. There are yet, however, too many who do not understand its value.

It behooves every business man, every State official, every railroad official, in the South and Southwest especially, to be represented in person or by men of chemical knowledge at the Chemical Exposition, in order that they may study what is being done. Some of them will find that they have completely lacked a realization of the resources of their own country, some of them will be ashamed to see how little they have done in comparison to what others, having less advantages, have done. Some railroad officials will hang their heads in shame as they see the splendid exhibits made by some roads in contrast with their own lack of exhibits. Some manufacturers will go home from the exposition with a new light kindled in their lives, with their horizon broadened and a keener realization of what can be done when the brains of the chemists are fully utilized.

And so, to all of our readers, the MANUFACTURERS RECORD would offer the suggestion that the Chemical Exposition should be studied in person, for in this way, as in no other way, can the limitless possibilities of chemistry in its relation to every phase of national life be adequately understood.

WHERE THE GOVERNMENT SUPPRESSES BY LEGISLATION THE ENLARGEMENT OF THE WORLD'S FAT SUPPLY.

MISS JOSEPHINE T. BERRY, Professor of Home Economics in the Department of Agriculture of the University of Minnesota, who is also a member of Home Economics of the Food Administrator, in a letter to the teachers of Home Economics in the public schools of Minnesota recently said:

"Oleomargarine is an entirely satisfactory substitute for butter in cooking processes, and is quite satisfactory as a substitute on the table. Its food value is equal to that of butter, with the possible exception of some vitamines which the butter may contain. In our classes in the University we use absolutely no butter as an ingredient in ordinary dishes. We use oleomargarine, lard, crisco (this is hydrogenated cottonseed oil) and other commercial fats, and use them for everything except in a few cases when a butter flavor is desired for seasoning."

The Superintendent of Home Economics in the public schools of that State wrote to the Superintendent of Public Schools as follows:

"In the cooking classes of the public schools the uses of all fats are taught. During the year butter, lard, oleomargarine, crisco and sawtay are used. The composition of the various fats and the advantages and disadvantages of each are emphasized. Whenever butter substitutes are practical their use is advocated, since economy is one thing that is important. Our aim is to get the best results possible with the smallest expenditure of money, and when butter substitutes will give these, we use them."

These letters issued by leading authorities of Home Economics have raised a stir among the butter trusts or dairy interests of Minnesota and other Western States. The truth as told by Miss Berry and by the Superintendent of Home Economics is not palatable to these interests. Mr. J. R. Morley of the Executive Board of the National Dairy Union of Minnesota rises in his wrath to denounce these statements, not because they are incorrect, because he cannot prove that, but because he does not want the University of Minnesota to teach truth of this kind for fear it might interfere with the butter trust interests. He says:

"Is the University of Minnesota going to join hands (at the dictation of one woman) with the oleomargarine-cottonseed oil interests to bring about a condition that is now so disastrous to poor, poverty-stricken Poland (referring in this case to the lack of cows in Poland to provide milk for babies)?" And adds: "An institution that has spent its energies for years to build up the dairy industry to its present magnitude cannot consistently allow its own department to work with Chicago and Southern corporations to destroy it. * * *

"There can be no apology for the Superintendent of Home Economics of the University of Minnesota for being a party to such a propaganda.

"Miss Josephine Berry has had added to her opportunities for good or evil in her appointment by the Food Administration Commission as a member of Home Economics to advise on food conservation as a war measure. To be consistent with her attitude at the University she must recommend animal and vegetable fats as a substitute for milk products. * * *

"The farmers of Minnesota want to know where the University of Minnesota stands on this subject. * * *

"Banish oleomargarine from the University of Minnesota as well as all State institutions. The dean of the Agricultural College will be held to account if this continues."

And so Mr. Morley evidently proposes to use the influence of the butter people to have the dean of the Agricultural College of the University of Minnesota dismissed if he does not prevent those working under him from telling the actual truth in regard to the value of cottonseed oil products. What is the University for, in Mr. Morley's opinion judging by his statement, if it is not for the purpose of suppressing information so as to keep the people in ignorance of the actual facts in regard to food questions as well as on other matters?

Very wisely Mr. Herbert Hoover is urging upon the cottonseed oil interests of the South that they increase their production in order to help swell the world's supply of fats, for the lack of which there is now such serious suffering in many countries. In addition to the cottonseed-oil output there is a constantly-increasing production of peanut and soy-bean oil and other vegetable oils, all of which are invaluable as an addition to the world's supply of fats. The opportunity is opened to this country to vastly increase this industry, provided the National Government does not for the express purpose of continuing to beat down the consumption of these fats in the shape of oleomargarine or butter made by a mixture of oil and milk churned together, keep up its unwise taxation on oleomargarine and its burdensome taxation and restrictions on all who deal in it as manufacturers, wholesalers or retailers. It is possible for the National Government to tremendously increase the available fats and to permit pure, wholesome cottonseed oil and other vegetable oils, made into butter or a substitute therefor to meet the urgent demand of consumers in this and other countries.

While the Administration and Mr. Hoover and the Agricultural Department are so urgently seeking to increase the supply of foodstuffs and to lessen the exorbitant cost of food will they unite in giving to the country the benefit of a free and untrammeled development of the cottonseed and other vegetable oil interests as a supplement to butter? These oils or their product will not supplant butter, but they can be made to greatly supplement it to an enormous advantage to the whole farming interests of the South and of the consuming public of the whole nation.

The restrictions on oleomargarine, more drastic in some respects than the taxation and restrictions on whisky, and the license to sell far heavier in cost than the license to sell even "rot gut" whisky, are an anomaly in American legislation. A man may be licensed by the National Government to sell whisky, which is killing to body and soul, for much less than the license to sell oleomargarine which, by the testimony of the highest authorities and experts, is a wholesome food and one of the worlds essential fats. Indeed, Southern agricultural colleges cannot without endangering themselves teach their students how to mix cottonseed oil and milk and churn them together in order to produce butter.

Can asininity in national legislation possibly reach lower depths? A protective tariff run rampant never quite equalled in any of its provisions such a scheme as this for protecting one industry and increasing the cost to the customer.

Will President Wilson and Commissioner Hoover stand for it?

IMPORTANCE OF READING MANUFACTURERS RECORD.

MR. H. READ and wife of Los Angeles, Cal., are guests at the Hotel Monroe. Mr. Read is an architect and was attracted to Monroe by the recent articles about Monroe published in the MANUFACTURERS RECORD.—Monroe (La.) News-Star.

Help Italy, Now! Declare War on All Germany's Allies and Stop Playing at War!

THE Patriotic Education Society, in a bulletin recently issued, urges the United States to declare war on Germany's allies. This bulletin is so directly in line with the views of the MANUFACTURERS RECORD that we give it in full, with our heartiest commendation of every word in it:

"America must declare war on Germany's allies.

"More and more clearly it becomes apparent that this country's anomalous position in her relations with Austria-Hungary, Turkey and Bulgaria should be terminated forthwith. If this is a war of democracy against autocracy, how can be maintain friendly relations with the most despotic of the great empires, Austria-Hungary? All of the reasons that made it necessary for America to offer in sacrifice the lives of her youth and to pledge her entire resources to a war to the finish with the Hohenzollerns demand a similar declaration against the Hapsburgs.

"The Hapsburgs have shown the same ruthless disregard of the rights of small nations as the Hohenzollerns. Remembering the wrongs of Belgium, we have forgotten the wrongs of Serbia. Austrian armies have committed the same outrages upon Serbian women, old men and children that German soldiers have committed in Belgium. Austrian submarines sink ships without notice, and Austria has officially endorsed German submarine warfare.

"Every day's delay in declaring war on Austria, Bulgaria and Turkey not only puts off the ultimate victory—it is a source of actual danger to American homes. The embassies of these allies of Germany, with their privileges of sending code messages, afford a leakage for information to reach Berlin. The attaches of Bulgaria and Austria have free access to our War, State and Navy Departments, and no matter how guarded our officials may be, the representatives of these nations, allied with our enemy, can and do obtain information of our war plans, which eventually reaches Berlin through the agency of their home offices.

"Since our declaration of war the German Secret Service has relied less upon its own subjects in this country and more upon the subjects of her allies in America. Austrians and Bulgars have been found in numerous plots against this country, and have been instrumental in stirring up disorder intended to hamper our war efforts. This is particularly true of the I. W. W., where few Germans are to be found. Austrians and Bulgars, on the other hand, are as numerous in stirring up disorder through this organization as Germans were in Italy before that country got rid of them by declaring war on the Imperial German Government. Even China, the last nation to join the Allies, has been wise enough to profit by the mistakes of other nations and, by her declaration of war, has placed the Hapsburg Kaiser, the Bulgarian Czar and the unspeakable Turk in the same basket with their mentor, Wilhelm II. Are we to be considered less farsighted than the Chinese? Must America wait for the inevitable disaster before taking this common-sense precaution?

"America, through her curious policy of waging benevolent war, has allowed millions of dollars to go out of this country to swell the war chests of her enemy. The great Austrian fleet, which has been idle in American ports for three years, eating into the capital of its Austrian owners, has been sold at war prices. The Austrians have not only gotten back dollar for dollar their original investment in these ships—they have made a profit which greatly covers their loss and will permit them to build a newer and better fleet to enter the world's competition immediately on the signing of the peace treaty. Austrian securities held in America are being sold and American dollars sent to Europe to help the Hapsburgs strangle democracy.

"Ostensibly we have refrained from declaring war on all of the Teuton Allies in order to leave the door open for Austria to sue for a separate peace. What reasons existed for believing that Austria would sue for peace more quickly if she had fewer enemies our State Department has not made clear. Whatever these reasons, they have not been borne out, as all of Austria's recent peace moves have come through channels other than the United States. Doubtless, the Emperor Karl would have made peace long ago were it not for the almost certainty that a separate peace meant disruption of the empire. The threat of the German armies has acted as a great ring of steel to bind the discordant elements within its circumference.

"A much surer road to a separate peace with Austria lies through Gorizia with the victorious Italians. Forty miles lie between the Italian army and Lubiana. From Lubiana the road is open to Vienna and peace, not a separate peace, but a victorious peace with Germany as well as Austria. Military men have been impressed by the recent drive on the Isonzo. Italy has demonstrated her ability to strike, and strike hard when not handicapped by lack of munitions. Unfortunately, she has not had the necessary raw material, and today she is almost entirely dependent upon the United States. Cotton, metals and coal, or their equivalent in manufactured munitions, are the crying needs of Italy today. Much of the success of the present offensive is due to the help that we have already given. We have not given more because of the shortage of ship's tonnage. With Austria numbered among our open enemies instead of occupying her present curious position, that of an enemy and yet no enemy, America will have a sentimental reason for increasing her help. And war, of all terrible things, is made on sentimental rather than practical lines.

"If it is true, as we have every reason to believe, that Italy with the fullest co-operation of America can reach Lubiana this year, she should have that help. With Russia definitely out of the fighting until spring, with no hope of an offensive in the Balkans, with the Allies, in spite of their brilliant strokes, unable to drive the Germans back to the Rhine for another year, possibly two years, Italy offers the chief hope for an early decisive victory. There are two months of fighting ahead of the Italian army this year, and General Cadorna should have every substantial encouragement to demonstrate what he can do."

HOW TO NARROW THE NATION'S LIFE.

IF the nation can be best served by narrowing the knowledge of its people or by destroying all that makes for the broadening of the knowledge of the people of all sections; if it can be benefited by destroying the circulation of national publications which carry the same message to the people of the whole land and by concentrating the reading of the people almost wholly upon the local publications; if the best interests of the nation can be served by a policy which keeps one section from knowing what another section is doing, then the proposed zone system of increasing postal rates on newspapers should by all means be promptly adopted. There is no other argument in favor of it.

Its effect would necessarily curtail the broad nationalization power of the national papers in the country. In the end the people who continued to read these papers would, of course, have to pay the cost, for of necessity such publications would be compelled to add the additional postage to their subscription rates. The man who lived a few miles beyond a particular zone would thus be placed at a disadvantage to his neighbor a few miles within a certain zone, for one would have to pay a higher rate for the literature which he needed than the other. The whole spirit of the zone system as applied to the newspapers is absolutely contrary to the spirit and custom of the American Government for many decades. It is contrary to the spirit of the nation, for it undertakes to add to the burden of the people the cost of being kept informed as to the great questions of the day.

Some members of Congress have said to members of the staff of the MANUFACTURERS RECORD that, in their opinion, the newspapers have been responsible for the war, and that, therefore, they intended to add as large a cost of war expenses to newspapers as possible. This narrow and bigoted and false view is merely in keeping with the spirit which fights for an increase in postage rates at the present time, and especially for the zone system. In discussing this situation, Financial America of New York says:

By a vote of 40 to 34 the Senate rejected the zoning plan of postage charge.

That is good.

If the zoning system had been established it would be crippling to many great publications, but much as the publications would lose, business would lose immeasurably more.

One of the fine things in America is the cheapness of communication. Europe was held in rival camps because communication is not so free, so easy or so cheap.

There are more publications in America than in all the rest of the world. There are publications that reach practically every nook in America. A message in such a publication reaches all America. That's a great asset—to have the nation so knit in its literature that all the people can be reached.

And think what it means in a business sense: A manufacturer, through a few national publications, can address the largest body of buyers in the world. That makes possible production on a scale and with an economy not to be had anywhere else in the world.

The bigger the market the greater the economy in manufacture and the cheaper the goods to the public.

The national publication is a great asset, too, in aiding gradually to bring the immigrant into the American circle. No country has more acute problems in regard to its foreign population than has America. This has been demonstrated, much to our surprise, chagrin and sorrow, within the last three years. There must be no check to the welding process.

Unquestionably, if the zone system had been introduced the national publication would have been blighted. The cost of such papers as the Saturday Evening Post, the MANUFACTURERS RECORD, the Scientific American, such magazines as Popular Mechanics, System, The Outlook, World's Work, Literary Digest, etc., would have to double their prices to their distant subscribers or print their publications in not one place, but in each zone so as to escape the heavy postage charge. It would mean a duplication, triplication, quadruplication of printing plants such as would be a horror.

And the public would pay. It would pay in extra price for its reading and in extra price for the articles it now buys cheaply because of the big national market that is in America.

Unquestionably, the Postoffice Department loses money through the cheapness with which it carries second-class matter. Unquestionably, it loses money through the Congressional Record and the shameful amount of no-account stuff the Washington departments and the members of Congress send through free mails.

There should be a rectification of these things, particularly in these war times. The profits of publishers furnish a good way of reaching the men who make money out of the printed word. Tax 'em as you tax the steel man, the copper man, and the other ones who are profiting.

But there's no need in doing this to injure the really great work the national publication performs in creating, sustaining and broadening the national marketing system of America.

HAS GIVEN SOUND ADVICE.

J. I. McCANTS, sales manager Standard Portland Cement Co., Birmingham, Ala., writes the MANUFACTURERS RECORD:

I wish to heartily commend you for the articles that you have so ably written in regard to our relations to the great world conflict.

Your pamphlet entitled "America's Relation to the World War" should be given wide distribution. Every loyal American publisher should see that these editorials are reprinted, giving due credit to your worthy editor. I firmly believe the MANUFACTURERS RECORD has for the past four years given more sound advice on our conditions with respect to the war than all other publications in this country put together.

Please send us 100 copies of this pamphlet at your earliest convenience.

APPARENTLY ADVOCATES LYNCHING IN SOUTH, BUT OBJECTS TO DUE PUNISHMENT OF GERMANY FOR INTERNATIONAL AND INDIVIDUAL RAPING.

Morrilton, Ark., September 11, 1917.

Editor Manufacturers Record:

I have read with interest your collection of editorials just recently issued refering to the war.

I agree with you in most of the matters discussed and I found some thoughts and suggestions that were new to me and enjoyed the series very much.

For your information I will state to you the weak points in your writing, as I see it.

In the first place, I think you are extreme in your expressions of hatred and condemnation to the point of detracting from the real merit of your arguments. This is the only real criticism that I can see, taking the booklet as a whole.

In the matter of judgment, I am of the opinion that you are wrong in desiring anything further in the way of punishment for the German people than to bring them to the point of accepting terms of peace which will guarantee a future in line with the expressed desires of our people.

You have evidently forgotten the nineteenth verse of the twelfth chapter of St. Paul's message to the Romans—and if you should take the grounds that God's Word is made only for use in times of peace, you would have to admit that a wholesale punishment administered to the German people would fall both on innocent and on guilty alike.

Down South we take a negro that has been guilty of some of these kind of things and shoot him or burn him alive. Nobody suffers but the guilty. Up in Illinois they go out and administer the same kind of punishment to guilty and innocent alike.

I like the Southern system best.

J. S. MOOSE.

A reply full and complete to Mr. Moose could easily be given, but we will make it brief. We have not forgotten the verse in the Bible to which he refers, nor the one which says that the wicked and all the nations that forget God shall be turned into Hell, but possibly an answer which will satisfy even Mr. Moose and all those of his way of thinking is found in a letter received by us a few days ago from a leading business man in New York, in which he gives us an extract of a letter received by him from a personal friend in France. This extract is as follows:

* * * *

There are some very painful situations—and such as a novelist would never have conceived. Near —— the Countess of X had established a hospital where she was taking care of the French wounded with the aid of her two daughters. She herself was 37. The Germans came and occupied her chateau. To begin with, they blew out the brains of the wounded; then these three poor women were made the playthings of these Germans. Every week the officers were changed, and they passed the women from one to the other.

These three unfortunates became pregnant. They wanted to kill themselves, but being good Catholics, they first asked absolution of the cure, but he refused it. And this poor woman then wrote to her brother-in-law to ask him what to do. Her husband is a colonel. Let us hope for his sake that he may be killed before he can learn of this.

But this sort of thing is of frequent occurrence. There are thousands of women in that same situation. This particular case is known to me because I am acquainted with the brother-in-law. We are going to have much difficulty in getting over all that sort of thing.

The Kaiser did not personally commit the crimes mentioned in this letter, but all Germany is responsible for them. This case is only typical of hundreds of thousands of similar cases; the history of mankind shows nothing like it. Turkish atrocities in all their fearfulness in the past have nowhere stained the pages of civilization as have the crimes of Germany. Moreover, there could be no war if the German people as a whole were not upholding the Kaiser and the military powers. Mr. Wilson has made few more serious mistakes than that in which he said we were not fighting the German people, but Prussian militarism. As a matter of fact, the German people as a whole, from the Kaiser down to the lowest strata of society, are united in fighting us. All Germany is full of the microbe of intense hatred and bitterness to America; full of the lust of power; full of the belief that Germany should dominate the world; full of a desire to conquer the world without regard to the millions that may have to be destroyed in its campaign. All Germany is guilty.

The fearful war which Germany has launched upon the world, resulting in the death on the battlefield and in the hospital of some seven or eight million people, the wounding of two or three times as many, the death of millions of women and children who have died of starvation and privation and from the awful agony of their sorrows is not a war of Prussian militarism or of the war lords, so called, but is a war of the German people. It is upheld by the professors in the great universities of Germany; it is upheld and its ruthlessness commended by German preachers; it is upheld by the business men, by the farmers, and by all classes of trade, and yet we talk about not making war upon the German people, while every atom of German life is concentrated in wrath and fury in making war upon us and upon all civilization!

Mr. Moose's letter is the first written or spoken statement, so far as we can remember, that has ever come to our attention in which a reputable man practically upholds lynching, even to where the criminal is burnt alive. He says nobody suffers but the guilty when the criminal is lynched or burnt, but in this he shows a fearful lack of appreciation of how the whole moral fiber of a community is injured by any lynching, and how the moral strength of a people can be ruined by the lynching spirit. Moreover, every lynching is a crime greater than the crime which caused it. The crime which produced the lynching was a crime against an individual, and to that extent against society. It was done by one individual; but the crime of lynching is a crime committed by a mob which lynches the law when it lynches the criminal, and which at the same time lynches the sovereignty of the State and the majesty of the law. Once permit the law to be set at naught and the sovereignty of the State be spit upon, degradation fast and furious follows. The South has paid a fearful penalty for every lynching that has been committed, however great may have been the crime which caused it, or however intense the feeling aroused against the criminal. No man who upholds lynching, or apologizes for it, as Mr. Moose has done, or who, in speaking of it, says that "nobody suffers but the guilty," is at all competent to speak on the world tragedy which we are now enduring.

The following letter in the New York Tribune, written by Mr. F. B. Nash of that city, should be read by Mr. J. S. Moose and everyone else to his way of thinking:

Crushing a Criminal Race.

To the Editor of The Tribune:

Sir—For two years I have been grimly waiting for such plain-speaking leaders as yours of Saturday last on "The Hun." I am thankful that at last the plain truth about the German is being published in unwavering sternness. All that you say of the unspeakable "Hun" could as truly have been said since the earliest days of the war. It is impossible to exaggerate the horror, disgust and contempt of civilized men for the German. As you say at the close of your leader, the name "German" will yet be a reproach—yes, a disgrace—from one end of this land to the other. Indeed, it is difficult to see how any self-respecting Frenchman, Englishman or American can consent to any relations whatever with any "German" anywhere on earth.

The infamous revelations from the Argentine are but another illustration, added to innumerable atrocities in the past, to show up the ferocious brutality of the German soul. The German Ambassador there advises his government to destroy neutral ships and "leave no trace." That means to murder every soul on board.

How much longer are we to be insulted by the cowardly pacifists of America on the soapbox at the street corner, and in the Senate of the United States as well? How much longer are we to hear the intolerable rubbish that we are not fighting the German people?

There are more than six millions of Hohenzollerns in this land of the brutal soul and the unspeakably false intellect. They have hailed and defended every German crime against humanity, honor and law. They are doing the same today.

There is no peace possible with such a God-forsaken land and nation, except a crushing defeat and such peace terms as will make it impossible for this criminal race ever again to deluge the world with bloody crime.

New York, September 10, 1917. F. B. NASH.

BRANDEIS AND THE RAILROADS.

THOUGH carrying the heaviest freight traffic they have ever known, and handicapped by their obstinate refusal to foresee good business under a Democratic administration, the railroads of America have cut down the so-called "car shortage"—that is, the number of unfilled orders for cars—from 148,627 on May 1 to 33,776 on August 1. They are moving cars faster than ever before. They are supplying nearly 20 per cent. more freight service than ever was done before with the same number of cars. They have cut out waste right and left, and that without sacrificing efficiency.

Yet one seems to remember that a few years ago, when the man now known as Justice Brandeis of the Supreme Court, said that the railroads could save a million dollars a day by better management, he was hooted as an impertinent amateur. How he must chuckle now to read the bulletins which tell of railroads making an even greater saving—and modestly taking all the credit to themselves!—Chicago Journal.

The foregoing from the Chicago Journal is in keeping with much of the stuff which is fed to readers of daily papers, especially those who are constantly seeking to misrepresent the railroads and business interests. Just as Brandeis probably has sense enough not to take unto himself any credit whatsoever for the changed situation in railroad affairs, so no one but a fool would charge the present heavy traffic on the railroads to a Democratic administration unless he was willing to charge the world war to a Democratic administration.

The fact that the railroads have been able to increase their traffic and reduce the car shortage is due to the fact that under a Democratic administration of men who formerly would have held up their hands in horror at such a thing the entire railroad mileage of the United States has been pooled and is operated practically under the management of five men, who entirely disregard local conditions or local needs and who deal with the whole problem from the viewpoint only of how best to serve the country's ability to prepare for war. Had anyone five years ago proposed to let all the railroads of the country pool their business and the entire system be operated as one road, there would would have been a howl from papers such as the Chicago Journal and others of its class, who would have sought to make the country believe that some fearful crime was being committed.

It is a great pity that such publications make a business of trying to deceive the public and to create absolutely false impressions. We cannot believe that this is due to a lack of intelligence, for that would presuppose that they were edited by people who had escaped from insane asylums. We can only believe that such publications are for the express purpose of currying favor with the crowd and creating a mob spirit by bearing false witness, or, in other words, by willful falsehoods.

TWO VIEWS FROM DIFFERENT ANGLES.

ACKNOWLEDGING receipt of a copy of a pamphlet entitled "America's Relation to the World War—Shall This Nation Live or Perish?" Col. Theodore Roosevelt wrote as follows:

My dear Mr. Edmonds—As an American citizen I wish to congratulate you with all my heart on the pamphlet "America's Relation to the World War." That's straight patriotism!

Faithfully yours,
THEODORE ROOSEVELT.

An entirely different view of the pamphlet was received in the same mail that brought Colonel Roosevelt's letter. It was as follows:

Denver, Col., September 9, 1917.

I have read your pamphlet "America's Relation to the World War." Do you really think that any sane American that knows anything at all about the war and of the origin of the war believes your writings? I, for one, am thinking that you don't believe them yourself. Of course, it has to be considered that writing is your business, it is the way you make a living and the stronger you put it on the more pay you can expect from Lord Northcliffe. But what caps the climax when finally in your prayer you drag our Lord God and our Saviour Jesus Christ into your unholy business. Verily, my friend, if you don't go straight to hell when you leave this world, hell will be empty for a long time to come.

Yours in justice,
P. H. LEGAN.

The people living in the United States at present, whatever may have been their birthplace, or whatever may be their claimed allegiance, are represented on the one side by the view expressed by Colonel Roosevelt, and on the other side by the view expressed by Mr. Legan.

On the one side stand the men of honor, who realize that we are engaged in the greatest struggle in all human history against the most fearful barbarism every known in human history.

On the other side stand the men (it matters not what claim they may make for themselves, whether as "conscientious objectors," or "pacifists," or pro-Germans, or what not) who are in alliance and copartnership with and upholders of all of the unspeakable crimes in which Germany as a country and German soldiers individually have been guilty.

On one side stand the people of honor and integrity and patriotism—the men and women who are working for civilization.

On the other side stand those who are allied with all the hellish activities of Germany, and who share in their thought and affection, if not in their acts, a copartnership with the murderers and rapists and all the other vile criminals who, under the banner of Germany, are fighting under the banner of hell. And yet it is almost an insult to hell to speak of it in the same breath as with Germany.

Mr. Legan is not on the Roosevelt side, and we are rather inclined to think that he is among that number, altogether too numerous as yet, who have not been imprisoned by the United States Government, or perchance among that number—and their name must be legion in the near future—who will have to stand before the firing squad as traitors to this country and to civilization.

The time has about come when such people will find short shrift before the awakened spirit of Americans, who will soon realize that their loved ones on the battlefields are being stabbed in the back with poisoned stilettoes by these unhung scoundrels.

HELP ITALY, AND HELP QUICKLY.

THE fight which Italy is now making is regarded by some authorities as possibly the greatest battle in human history. Certainly no battle was ever fought under more terrific disadvantages. If Italy can break through and strike Austria in the rear, it would probably do more to bring Austria and Germany to quick terms than the fight on the western front. If Austria can be invaded by a great army striking at the very vitals of the country through Italy, it must inevitably collapse.

The terrific fight which Italy is making is almost beyond comprehension. Its soldiers have had to climb mountains regarded as inaccessible even to the mountain climber, and yet they have had to take heavy guns up these rugged mountains and at places swing from mountain peak to mountain peak a network of cables on which to carry munitions, and even the wounded. One peak was regarded as absolutely impregnable on one side because there was a sheer precipice of 8000 feet, covered with ice and snow. The Italians made a fake attack on the other side, but at night sent their troops to scale this 8000-foot snow wall. So difficult was the climbing that many of the men had to go up barefoot in order to dig into the snow and get a foothold, according to a cable to the New York Times. No guns could be carried because of the difficulties of ascent and the danger that they would strike against the rocks and make the ascension impossible, and hence pistols only could be used. Steadily through the night the men scaled this fearful snow-covered mountain, and when they landed on the top, taking the Austrians by surprise, they had only their pistols with which to fight. When their ammunition was exhausted it was then a hand-to-hand contest of fist and club against the Austrians until the latter were overcome and victory was secured.

This achievement, possibly unequaled in all the annals of the world's wars, is indicative of the spirit with which Italy is fighting for liberty against barbarism.

In this terrific struggle Italy needs everything which we can send her. She needs coal, for the price of coal is said to be $100 or more a ton, and her munition factories are unable to run to full capacity because of the lack of fuel. She needs guns and she needs many other things which we could send. It behooves this country, through immediate co-operative work, to help Italy, and, regardless of the cost or of the privation that we may have to endure by reason of our help, to send to Italy coal and guns and everything else that we may be able to provide.

Within the next two months of fighting weather Italy may be able to strike such a blow at Austria as to hasten the end of the war and save hundreds of thousands of soldiers which otherwise we might have to lose on the western battle front.

In this great crucial effort of Italy, which must forever rank as one of the world's mightiest achievements in war, we are to some extent handicapped by the fact that we have not declared war on Austria nor on Bulgaria. We are permitting the representatives of Bulgaria to be in this country, and we are handicapping ourselves by diplomacy foolish in the extreme which causes us to wait for Austria and Bulgaria to declare war on us. The idea that we should wait merely out of some diplomatic form or the desire that we should not appear as the aggressor in declaring war has no justification whatsoever. We should immediately declare war on every ally of Germany. They are all fighting us, and it is folly to shut our eyes to the fact.

Let us recognize the situation and throw in our full power to help Italy in every way in which it needs help, and do it now.

WHO MADE THE NAILS?

OWING to the accidental breaking on a New York wharf a few days ago of a case of nails consigned to Sweden, it was discovered that the head of each nail was covered with a one-ounce cap of lead. The man who happened to pick up one of these nails thus opened to public view noted the importance of the discovery and immediately reported it.

These 400 cases of nails made with leaden heads were marked for Sweden, but they were doubtless intended for Germany.

Some American firm must have known that the only possible use to which a nail of this kind could be put was for the lead, and that that must have been intended for war purposes.

Who was the firm that made such nails and what were the conditions under which they were produced? The United States Government is investigating the matter, but the public has a right to know what firm produced the nails and under what conditions. It is scarcely possible that a business house in the country was so innocent as to be taken in in being asked to produce nails of this kind without suspecting the purposes for which intended.

SHIPPING TOBACCO FROM OHIO AND KENTUCKY BY ALL WATER TO EUROPE.

IN reply to an inquiry about shipping tobacco down the river to New Orleans for France, Mr. J. M. Buckner of Louisville writes the MANUFACTURERS RECORD:

I am in possession of your esteemed favor of August 30, which would have been answered sooner, but I have been away for five weeks.

I note that a bulletin recently issued by the Food Administration makes the statement that I sold 40,000,000 pounds of tobacco to the French Government which was shipped by water to New Orleans and thence to France.

This is partly the truth. I did sell to the French Government even more than 40,000,000 pounds of tobacco as I have been their representative here for a year.

My reason for shipping the tobacco by water was that I bought the tobacco all up and down the Ohio River, from Cincinnati to Cairo and in Indiana tributary to the Ohio River.

The great car shortage last spring necessitated my making arrangements to get this tobacco to New Orleans by water. As we had vessels there to load the tobacco for France, and as the railroads could not furnish cars and as the French Government needed the tobacco in order to keep their factories going in France, I was compelled to get the tobacco to New Orleans to catch these steamers; so I arranged with the *Inland Navigation Co.*, at St. Louis, which has steel barges propelled by gasoline engines, each barge taking from 600 to 900 hhds., to take this tobacco to New Orleans. When the tobacco arrived in New Orleans in some instances it went along side of the steamer and was loaded from barge to steamer, that is, if the steamer was ready to receive the cargo, and when this was not done the cargo was taken off the barges and loaded on the docks pending the arrival of the steamer.

I ship large amounts of tobacco all over the world and am working to try to assist the river traffic and not be compelled to depend on the railroads. This steel barge left Paducah on Friday morning and arrived at New Orleans the following Monday, being only four days; in fact, it made better time than a freight train, and the great advantage was that all the cargo arrived at one time and could be checked by the shipping clerks much easier when it was loaded on the vessels than it could have been checked if it had been shipped by railroads, as the cars arrive at different times.

I see no reason why the river traffic should not be encouraged on the Ohio and Mississippi Rivers, in fact, it looks like to me the Government is not on the job and the railroads are holding up the shippers.

I expect to handle large amounts of tobacco next year for various governments, as I will probably represent France and Sweden and sell considerable tobacco to Spain, also large amounts to Denmark and Norway, and it is my intention to have factories located on the river front where I can have the barge stop in front of the factories and load the tobacco from the factories direct into the barges.

AMERICAN CHEMISTS MAKING NATION INDEPENDENT

RAPIDLY SOLVING GREAT PROBLEMS VITALLY IMPORTANT TO THIS COUNTRY'S LIFE.

[The Chemical Exposition in New York City next week will serve to directly concentrate the attention of the country upon the triumphant performance of American chemistry and American business in establishing important chemical and associated industries in this country since the European War started.

The South has such a broad range of raw materials and manufacturing advantages suitable for chemical industries that the Manufacturers Record has been unceasingly bringing this to the attention of chemists and capitalists of the country. Last year we published a special number known as "The Chemical Potentialities of the South," in which many of the country's leading scientists and chemists and practical business men engaged in chemical manufacture set forth in strong, impressive and incontrovertible statements facts about the South's chemical-making resources that indeed astonished even close students of Southern possibilities. That issue aroused the South and the country to the possibilities offered there for the development of chemical industries.

It is timely to refer to these facts in connection with the Chemical Exposition next week, and while not going into the same exhaustive detail that was done in that special number, a brief symposium is presented in this issue, covering the important progress that has been made in various phases of chemical and associated development. It is gratifying to see the South awakening to its possibilities in this line by being represented at the Chemical Exposition in a bigger and broader way than ever before. It is also hoped that the attendance from the South will be large and representative so that out of this exposition will spring up a larger development of chemical industries in the South and a greater faith of the Southern people in its industrial possibilities.—Editor Manufacturers Record.]

Chemical Exposition in Relation to the South and the Development of American Chemical Industries

By Wm. H. Stone.

The Third National Exposition of Chemical Industries, to be held in the Grand Central Palace, New York City, September 24-29, exceeds in importance and in broad relation to our national industrial life any other industrial exposition held in the country. This is true because chemistry has a direct and vital influence on practically every industry in the country, as well as upon agriculture and, what is of the greatest importance now, our successful conduct of war.

It is important we bear in mind that, while we have always made steady progress in industrial chemistry, we were content before the war to draw a large part of our chemical supplies, or basic materials from which to make them, from Europe, and principally from Germany. We were content to do this largely because of the low prices at which foreign chemicals could be obtained, and our manufacturers looked more at these low prices than they did at the importance of having our own chemical industries. They did not look ahead to a possible interruption in the continued supply of these chemicals, and they refused to encourage national legislation in the way of protective tariff that would enable a co-ordinated chemical industry to come into being in America and develop in scope and strength sufficiently to compete successfully with foreign production.

The war, however, shut off the supply of many foreign chemicals and dyestuffs upon which we were so dependent. Manufacturers in many branches faced ruin because of their inability to get raw materials. They hastened to the National Government and to American chemists with urgent pleas to help them out quickly in their dilemma ere their business be destroyed. They realized more than ever before how unwise had been their policy against a tariff that would have aided a steady, healthy growth of chemical industries in America, but now they were ready to endorse tariff or any other legislation if only they could get those materials they so badly needed.

Some tariff legislation was enacted, not all that it was felt was necessary, but sufficient to encourage chemists and capitalists to put their money and brains into creating necessary chemical industries to meet the demand. It will always be to the credit of the American chemists and the American capitalists having faith in the American chemists that within two years a comprehensive and practically complete co-ordinated chemical industry has been created in this country, and is not only meeting nearly every demand in the industries, arts and agriculture, but is also being established on a basis that will forever free us from foreign dependence—this, of course, if we have learned well our lesson and are ready and willing to throw around these vital industries a protective tariff sufficient to prevent foreign competition from driving them to decay and ruination after the war.

This brief resume, without going into details, simply states a fact of accomplishment not matched or even approached by any country on the globe. It shows beyond question that the American chemist is fully equal, if not superior, in ability, resourcefulness and technical knowledge to any chemist in the world, and has shown his ability by accomplishing in two years what it took the German chemists 40 years to do. All honor, therefore, to the American chemist, to the American capitalists that stood back of him and to the American machinery and equipment manufacturers who demonstrated the inventive ability and mechanical skill to provide the plant equipment to carry out successfully and practically the processes developed by the chemist.

Let us see to it that these labors have not been in vain.

Nowhere are the wonderful results accomplished in chemical industries so comprehensively set forth than in the annual exhibitions of the National Exposition of Chemical Industries. Here is shown, every year, the great progress that has been made, and here are gathered together the chemists, the manufacturers, the financiers and the plant operators to show what each has done and to review the year's developments in materials and machinery and to seek new ideas, newly-devised equipment and new sources of raw materials to broaden the industry and make it fully meet every need of the country.

Nothing reflects so strikingly the growth of America's chemical industries as do these annual expositions. The first one had only 83 exhibits, the second more than doubled, having 188, and the third, to be held next week, has nearly doubled again, and will have about 350. The first exposition had an attendance of 63,000, the second 80,000, and it is not too much to expect that at least 100,000 visitors will come to the exposition this year.

This attendance is not like that of the average exposition. There are few, very few, curiosity-seekers; on the other hand, many serious-minded men, bent on a serious purpose—earnest men of capital, science and industry, seeking to learn how best to build up the chemical industries of this country upon a foundation so secure and so thorough in scope and efficiency that foreign competition can never cause it to weaken or decay.

The Chemical Exposition means much to the South—in fact, far more than the Southern people have as yet realized. The South is fortunate in having deposits of raw materials and advantages for utilizing them, that make it an ideal section for the location of many chemical industries. The importance of this has not as yet been fully grasped by the people of the South, but they are more and more recognizing it, as shown by their increasing interest in the opportunities offered through the Chemical Exposition. The first exposition had but one or two representatives from the South, the second had a larger number of exhibitors, and it was for the purpose of awakening the South to its tremendous resources for such industries that the Manufacturers Record published a chemical issue last year, entitled "The Chemical Potentialities of the South," which contained articles by many of the country's most noted chemists and chemical engineers, and which demonstrated beyond question that the South indeed possessed the materials and the manufacturing advantages to make it the logical place for the establishment of many important chemical industries.

Those from the South who attended the second exposition saw for themselves opportunities never before fully anticipated. So impressed were they with these opportunities that many of them arranged for much larger exhibits this year, and a number of additional ones have secured space. Where last year there was but one Southern railroad exhibiting, this time there will be a number; also many Southern manufacturers of chemical products or equipment and materials used in chemical industries. Several progressive, co-operative exhibits will also be made by industries or communities in various of the Southern States. The complete list of those exhibiting from the South this year includes:

Alberene Stone Company, New York City.
American Chemical Manufacturing Co., Norfolk, Va.
American Chemical Society—Alabama Section—Birmingham, Ala.
Baltimore Finishing Co., Baltimore, Md.
Victor G. Bloede Company, Baltimore, Md.
Carolina, Clinchfied & Ohio Railroad, Johnson City, Tennessee.
Central of Georgia Railway, Savannah, Ga.
Chemical Construction Co., Charlotte, N. C.
Clinchfield Products Corporation, Johnson City, Tennessee.
Consolidated Gas, Electric Light & Power Co., Baltimore, Md.
Freeport Sulphur Co., New York City.
John H. Heald & Co., Lynchburg, Va.
B. Mifflin Hood Brick Co., Atlanta, Ga.
Houston Real Estate & Loan Co., Houston, Tex.
Knoxville Board of Commerce, Knoxville, Tenn.
State of Louisiana.
Manufacturers Record, Baltimore, Md.
Mathieson Alkali Works, Saltville, Va.
Monsanto Chemical Works, St. Louis, Mo.
Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.
Norfolk & Western Railway, Roanoke, Va.
Pratt Engineering & Machine Co., New York City.
Product Sales Co., 32 Calvert street, Baltimore, Md.
Southern Railway System, Washington, D. C.
Tennessee Coal, Iron & Railroad Co., Birmingham, Alabama.
Texas Co-operative Exhibit, Houston, Tex.
The Texas Company, Houston, Tex.
West Texas Mica Co., Houston, Tex.

The management of the exposition itself has recognized the importance and value of Southern resources for chemical industries by setting aside a special department, known as "The Southern Opportunity Section," where these exhibits from the South have been gathered together. This fact alone serves to give the South a certain distinctiveness and to enhance the value of its exhibits that will compel the attention of every visitor to the exposition.

In addition to these Southern exhibitors, the following ones, having their main plants in other parts of the country, but with subsidiary or branch plants in the South, will have booths:

American Cyanamid Co., New York City.
Arnold Hoffman & Co., New York City.
Barrett Company, 17 Battery Place, New York City.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Co., 25 Broad street, New York City.

Kalbfleisch Corporation, New York City.
A. Klipstein & Co., New York City.
National Aniline & Chemical Co., New York City.
National Gum & Mica Co., New York City.
Roessler & Hasslacher Chemical Co., New York City.
Semet-Solvay Company, Syracuse, N. Y.
Toch Bros., New York City.
United States Cast Iron Pipe & Foundry Co., Burlington, N. J.

A far better showing, therefore, is going to be made by the South than at any previous exposition, but, as extensive as these will be, they do not set forth in as complete a way what should have been shown. No other section can match the South in the scope and variety of its raw materials for chemical and associated industries. Every Southern State has either mineral deposits or manufacturing advantages that should have been brought out at the Chemical Exposition through its State Geological Department. More of the Southern railroads should have had booths to exploit the resources of their territories, likewise power companies, leading cities through their commercial organizations and various manufacturers who are making products that have relation to some phase of chemical manufacture.

No stronger endorsement of the South's advantages for chemical, electrochemical and electrometallurgical industries could have been made than by the selection by the Navy Department of a site at Charleston, W. Va., for the armor plate and projectile plants, and by the recommendation of the committee of government officials and scientists of Southwest Virginia as the best location for the synthetic ammonia, nitric acid and powder works. The South was not chosen for these important Government industries because of any sentiment or influence, but was selected by the committees of technical experts and practical men with an eye single to finding the one place in the country best suited for each particular plant. The fact that the ultimate choice was at some point in the South in both cases is going to focus the attention of capitalists, chemists and manufacturers of chemical products as never before upon the South and its many advantages for other chemical or related industries.

This also should cause the South to bestir itself and arise to the opportunities that lie before it for the development of its many resources suitable for industries that have come to stay in this country. Those from the South who will exhibit at the Chemical Exposition this year are going to reap the benefit of their progressiveness, because they will be able to direct special attention to their particular sections for raw materials and manufacturing sites.

Those in the South who for one reason or another have put off exhibiting ought by all means attend the exposition next week, so they can see for themselves exactly what the Chemical Exposition means to them and their sections. Every Southern railroad ought to send its geological and industrial agents, every Southern State should send its State Geologist, and the principal cities some suitable representative, while Southern capitalists, manufacturers and business men should come themselves in order that they can learn at first hand the importance of these industries to their communities and lay plans for bringing their resources into active development.

Such a participation on the part of the South in the Chemical Exposition by exhibits and by attendance will stimulate a representation at the 1918 Chemical Exposition, that will compel nation-wide attention to the South's all-'round advantages as the logical place for many important chemical industries.

There will be much to interest the people of the South at the Chemical Exposition next week. In addition to viewing exhibits of chemical materials and products used in every branch of manufacture, they will see the latest improvements in machinery and equipment, and will also have the privilege of attending a number of lectures and motion pictures that will show the great progress that has been made. A splendid program of papers and pictures has been provided, and these have been scheduled as follows:

MONDAY, SEPTEMBER 24

Afternoon: OPENING ADDRESSES:
Dr. C. H. Herty, Chairman Exposition Advisory Committee, and Editor Journal of Industrial and Engineering Chemistry.
Dr. Julius Stieglitz, President American Chemical Society.
Dr. C. G. Fink, President American Electrochemical Society.
Dr. G. W. Thompson, President American Institute of Chemical Engineers.

MOTION PICTURES:
The Water Powers of Canada (Dominion Water Power Branch).
(a) Vancouver, B. C., and Its Tributary Power, Their Development, Transmission and Application.
(b) The Powers of the Bow River, Alberta; in the Rockies, and Their Use at Calgary, Alberta.
(c) The Power of the Winnipeg River, Manitoba.
(d) Montreal and Its Tributary Power; Showing the Development at Richelieu River, Lachine Rapids, Soulanges, Cedar Rapids, St. Timothee, Shawenegan Falls, and Grand Mere, and Their Industrial Application.

Evening: MOTION PICTURES:
1. Hydraulic Power Development.
2. Making a Giant Steam Turbine (General Electric Co.).
(a) Handling Pig Iron.
(b) Filling the Cupola and Pouring Casting.
(c) Machining and Assembling the Castings.
3. Generation of Electric Power.
4. Transmission of Electric Power.
5. The Fixation of Atmospheric Nitrogen by Electricity at Niagara Falls, and Feeding the Soil with the Products. (American Cyanamid Co.)
6. The King of the Rails, or the Evolution of Transportation. (General Electric Co.)

TUESDAY, SEPTEMBER 25.

Afternoon: Meeting Chemistry Committee, National Research Council (private).

MOTION PICTURES:
1. Carpet Weaving.
2. Manufacture and Use of Wool and Its Products.
3. Cotton as a Source of Wealth—Growing and Manufacturing Its Products.
4. The Manufacture of Leather and Its Products:
(a) Tanning.
(b) Working Up Leather.
(c) Manufacturing of Shoes.
5. The Manufacture of Glass.

LECTURE.
Dr. Alexander Silverman (University of Pittsburgh):
"Glass Manufacture"—Illustrated specimens and stereopticon.

Evening: ADDRESSES:
Dr. M. T. Bogert, Chairman Chemistry Committee National Research Council:
"The Operation and Work of the National Research Council for the National Weal."
W. S. Culbertson, United States Tariff Commission:
"The Tariff Commission and Its Operation."
Dr. Grinnell Jones, Chemist to United States Tariff Commission:
"The Tariff Commission and Its Operation with Reference to the Chemical Schedule."

MOTION PICTURES.
Production of Spelter and Manufacture of Lead Products:
(a) Mining Zinc and Lead Ore in Oklahoma.
(b) Smelting for Lead and Zinc at Joplin and Henrietta.
(c) Production of Sublimed Lead Pigment from the Ore by the Fume Process.
(d) Manufacture of Carbonate of Lead for Paint Pigment.
(e) Manufacture of Lead Paints, accompanied by descriptive discussion by John R. MacGregor, Assistant General Sales Manager, Eagle-Picher Lead Co.

WEDNESDAY, SEPTEMBER 26

Afternoon: Meeting of the Technical Association of Pulp and Paper Industry.

MOTION PICTURES:
1. The Cordage Industry.
2. Manufacture of Paint.
3. The Soap Industry.
4. The Manufacture of Perfumes.
"The Spirit of the Flowers."
5. "The Wonderland of the Appalachians." (Carolina, Clinchfield & Ohio Railway.)

LECTURE:
M. A. Williamson (The Norton Co.), "The Manufacture and Use of Alundum and Crystolon."

Evening: ADDRESSES:
W. S. Kies, Vice-President National City Bank, "The Development of Export Trade With South America."
C. H. Boynton, President American-Russian Chamber of Commerce, "Russia and Its Relation to the United States."
Dr. L. H. Backeland, Member Naval Consulting Board, "The Future of the American Chemical Industry."

MOTION PICTURES:
1. The Coal, Coke and By-Products Industry (The Barrett Co.)
(a) Coal Mining Operations.
(b) Old and New Methods of Coking Coal.
(c) Recovery of By-Products.
(d) Use and Results from Ammonium Sulphate as a Fertilizer.
2. The Asphalt Industry (Barber Asphalt Paving Co.)
(a) Removing Asphalt from Trinidad and Bermudez Lakes.
(b) Transportation of Raw Asphalt.
(c) Refining and Manufacturing.
(d) Building Roads and Streets.
(e) Manufacture of Prepared Roofings and Other Products.
3. The Petroleum Industry—
Shooting the Lake View Gusher.

THURSDAY, SEPTEMBER 27

Afternoon: Symposium on National Resources for Chemical and Allied Industries:
Speakers:
C. H. Crawford, Assistant to President of Nashville, Chattanooga and St. Louis Railway—"Ahoppa Awan Tewa."
V. V. Kelsey, Chemist-Industrial Agent Carolina, Clinchfield and Ohio Railway—"Building a Complete Cycle of Chemical Industries on the Clinchfield."
Dr. T. P. Maynard, Mineralogist-Geologist Central of Georgia Railway—"Interpretation of the Mineral Resources along the Central of Georgia Railway."
Dr. E. A. Schubert, Mineralogist-Geologist Norfolk and Western Railway—"Development of Chemical Industries along the Norfolk and Western Railway."
J. H. Watkins, Geologist, Southern Railway—"Railroad Industrial Preparedness."

Evening: Meeting The American Institute of Chemical Engineers.

JOINT MEETING:
New York Section, American Electrochemical Society, and The American Institute of Mining Engineers.

MOTION PICTURES:
The Metal Industries.
1. Copper Leaching Operations at the Plant of the Chile Exploration Co., Chiquicanata, Chile.
2. Silver—"The Treasure of the Incas."
3. Gold—"The Basis of Business."

FRIDAY, SEPTEMBER 28.

Afternoon: MOTION PICTURES:
1. Asbestos as Fire Protection.
2. "Building of Roads and Their Maintenance." (Du Pont de Nemours Co.)
3. "Farming with Dynamite." (Du Pont de Nemours Co.)
Meeting—American Ceramic Society.
Dr. Malinovszky:
"Refractory and Stoneware of Malinite."

Evening: Conference—New York Section, American Chemical Society:
"Chemistry and the Banker."
"The Chemist," Arthur D. Little.
"The Banker," G. A. O'Reilly, Irving National Bank.

SATURDAY, SEPTEMBER 29.

Afternoon. MOTION PICTURES:
1. The Manufacture of Portland Cement.
2. Triumph of the Ultramicroscope, Seeing invisible colloid particles.
3. The Milk Industry.
4. Preparation of Condensed Milk.

Evening: MOTION PICTURES:
1. The Sugar Industry.
2. The Flour Industry.

A survey of this program shows what a splendid treat is in store for those who attend the exposition. They will learn of things being done in America today of which they had little idea. They will be able to go home enthused with a greater faith in the American chemists and American chemical possibilities, and with information that will enable them to look with a broader vision upon the opportunities their respective sections offer for a wider industrial expansion in new fields.

Has the American Chemist Made Good?

By Dr. Charles H. Herty, Editor the Journal of Industrial and Engineering Chemistry, New York, and Past President American Chemical Society.

Has the American chemist made good during the critical period of the past three years? Has he been able to respond promptly and fully to a hurry call of a totally unexpected nature? Has he done his part in the national emergency?

These are fair questions which the nation has a right to ask. To each of them I would unqualifiedly answer, "Yes," not in a spirit of boasting, but with the proud feeling that he has proved himself typically American in his ability to face a crisis unflinchingly, to adjust himself quickly to new and suddenly imposed conditions, and to overcome all obstacles. That is the American spirit which makes us all confident that when our army and navy get into action in Europe their deeds will far exceed the measure of their numbers.

What evidence can be brought in support of the affirmation that the American chemist has made good since the outbreak of the war? I wish that my pen could be loosed from the seal of many confidences, for it could tell a story of marvelous progress which would thrill this country with pride

in the accomplishments of its chemists. For good reasons many of these deeds cannot now be recounted. Gradually, and at the proper time, during the next few years they will become known, and then, I believe, will our chemists be given that high place in public confidence and esteem which constitutes now their just allotment.

Meanwhile there are certain outward evidences of the manifold developments which speak for themselves and which it may be well to outline briefly here.

Two years ago the exhibits at the National Exposition of Chemical Industries occupied, to our great joy, a full floor of the Grand Central Palace in New York city. A year ago, at the second exposition, two floors were completely filled. Now, on the eve of the opening of the third exposition, it is already assured that three floors will be required.

In looking over the list of exhibitors it is evident that the campaign carried on so assiduously by the MANUFACTURERS RECORD for an adequate exhibit of Southern opportunities is showing results. The railroads of the South are now taking hold with a vim. Next year I am confident that all of our State geologists, many chambers of commerce and our legislatures will promptly and earnestly begin the work of setting forth to the nation the wonderful natural resources of that section of the country which await development and which in developed form will add so largely to the strength of our country in the great struggle before us, a struggle which will require of us the very utmost of our strength and resources.

During the last three years more than $200,000,000 additional capital has been invested in our chemical industries. No more certain evidence than this could be given to demonstrate the fact that financiers are gaining a good measure of confidence in our chemists. They are learning that the chemist is not the man of mystery, neither is he the man who constantly seeks a secret interview to enlist backing in some get-rich-quick scheme; that, instead, he is a man working open and aboveboard, applying sound common sense, characterized by conservatism, good judgment and courage of conviction, and working upon systematic lines of research in any problem he is called upon to solve. The much-heralded wonders of "Zaline" (the promised two-cents-a-gallon motor fuel), and the still greater claims of a certain cheap green powder, which, added to water, would supplant gasoline, have added nothing to the motor power of the country, while the systematic researches of Burton, Rittman and others have constantly increased the supply of gasoline.

In dyestuffs the progress has been truly remarkable. All kinds of industrial enterprises, once threatened with disaster because of shortage in this line, are now able to obtain normal requirements. True, the variety of dyestuffs is not as great as formerly, but the number of these products is constantly increasing, research is keeping pace with plant development, efficiency in operations is being gained through the hard knocks of plant experience, and, best of all, the industry is being developed in all of its essential phases from the "crudes" through the "intermediates" to the "finished dyestuffs,"-a complete American industry which shall forever make us independent of any foreign nation.

Those lines of dyestuffs which at present are least developed are exactly those which were discriminated against in the tariff bill of a year ago by being excepted from the special duty levied. That this exception works only for the benefit of the German at the expense of the American industry is sufficient ground to warrant confidence that those who were responsible for the legislation will in due time join in patriotically removing it from our statute books.

Closely related to dyestuffs is the development in pharmaceutical products. Here, too, was shortage just as acute, and here, too, full relief is in sight. The two industries, side by side, have been daily developed. Against this growth one thing now threatens, namely, the propaganda for abolition of "product patents." The agitation of this matter during the past few months is purely superficial in its reasoning and filled with potentialities of disaster if it should succeed. No more crushing blow could be given to the inventive genius of our chemists than to single them out and refuse patents on the new products they create. The temporary shortages in certain well-known patented substances can well be met by other forms of legislation, such as Congress has already indicated its willingness to enact through the medium of the "Trading with the Enemy" bill. For our permanent welfare we cannot become a nation of mere copyists. The end of knowledge is far from being reached. The genius and inventiveness of chemists should not be curbed by any such legislation. We must do better than has ever been done before, and to this end the full safeguarding of intellectual creation should continue to be carefully assured.

An interesting development of the past few years has been the continually widening application of the Cottrell process of electrical precipitation of matter in very finely divided form. Through this agency the nuisances poured forth from many fume stacks are being converted into sources of wealth. The waste sulphuric-acid vapors from the plants where gold and silver are parted, and the potash-bearing dusts of the cement kilns and blast furnaces, yielding to this treatment, are but forerunners of the many possible applications of the process. All honor to Dr. Cottrell, who presented this discovery to the nation and who generously planned that through the Research Corporation the royalties from the process should be devoted to the aid and encouragement of scientific research.

In the matter of fixation of atmospheric nitrogen for munitions and agriculture we had expected to make use of some one of the methods discovered and developed first in other lands, but during the investigation and discussions as to which of these methods was best adapted to our needs and conditions the research staff of an American corporation, the General Chemical Co., was hard at work upon a process which was perfected and applied on a commercial scale and proved itself superior to all others and fitted to our needs in every way. At the same time the work of Professor Bucher of Brown University, as applied commercially by the Nitrogen Products Co., presents so many possibilities of unusual character that we may yet see far greater developments in this important line than has ever before been thought of.

The evidences above cited are simply a few selected from many. To understand their full economic bearing it must be remembered that these advances have been made possible by the progressive spirit shown by manufacturers of metal, stoneware and glass equipment.

The service of the chemist to the nation in these unsual times has been prompt, efficient and lasting. There is, however, another service which he is prepared and ready to perform, and for the quick execution of which he awaits only the word of those in charge of the ammunition for our fighting men, namely, the removal from every foot of coal gas of its content of toluene. This substance, when nitrated, constitutes one of the most powerful of modern explosives. Large quantities are being recovered from the by-product coke ovens, but large quantities are also being burned by the illuminating gas consumers of the country. Our men, soon to enter battle, should be protected by the most lavish use possible of high explosives. Every possible pound of high explosive that this country can produce should be manufactured and transported to the European battlefields. Trench warfare has met its master in high explosives; the terrible sacrifice of life can be lessened by the curtain of artillery fire. There is no time to lose. Our men are already near the fighting line and millions are preparing to follow them. High explosives must keep pace, nay, must increase faster than our man-power. I am writing this by a gas light, and I hate the thought that I am burning gas which contains toluene, every trace of which should be on its way to Europe in the form of trinitrotoluol.

Within the ranks of that army now being formed for battling in the cause of freedom are many of our young chemists, some from the industries, some from the seniors and graduate students of the universities. At Princeton all are gone, at the University of North Carolina every senior chemical engineer has enlisted, at the Massachusetts Institute of Technology the new course in chemical engineering practice has been abandoned until after the war, because all of the advanced men, prepared to enter the course this fall, have enlisted; and so it goes all over the land. Recruits must be trained to take these places in the future ranks of chemists, and the burden and responsibilities of this training lies upon our universities. Surely we shall not be grudging in our contributions and appropriations to educational institutions for the best possible training for the still younger intending chemists.

Chemical Progress in the United States

By DR. ELLWOOD HENDRICK (of Arthur D. Little, Inc., Boston, Mass.)

The last three years have been crowded days for American chemists, but even a hasty glance over the field will show that they have proven their competence. Occasionally we meet situations that are inconvenient, and frequently we are sorely put to it for lack of things needful that once were a-plenty; chemicals and merchandise with a chemical past are some times offered for sale which in all propriety should be accompanied by the blushes of the salesman, while there are processes in vogue that are slip-shod, wasteful and bound to succumb to the rub of competition. But the patron saint of chemists, whatever his name may be, has been good to them. In all the scurry and rush to meet demands, there has also been sound planning for the future, and I think this will appear as we pass hastily in review a number of chemical industries.

Before we consider any particulars, let us engage in a little discussion of the philosophy of the situation. There are two ways of knowing a thing, of which one is by weighing the evidence and reaching a conclusion. Such opinions we often have to defend, and despite conclusive arguments we are usually impotent to combat prejudice against them. The other way of getting information is by smelling it; it is in the air; everybody seems to know it and feel it and be sure of it, no matter how absurd it may be. Then it is of the *mores*, or the folkways, or customs of the country to believe it, and arguments either for or against the opinion have little weight. Of such was the conclusion that chemical processes could only properly and effectively take place in Germany. It was an advance guard of the Deutschland ueber Alles doctrine that had already settled down in this country. Now, to overcome a conviction of that sort that is in the public mind, that is generally admitted, that is, as I have said, in the air, is indeed like the task of moving mountains. **And this has been done.** American chemical manufacture is now acknowledged to be standing on its own feet, and it can prove itself by goods and prices. Five years ago it needed a club to get a hearing.

Fire is the most frequent chemical process, and the economical use of fuels is one of the first steps in applied chemistry. The greatest advance in this line is the burning of powdered coal in a blast of compressed air. The coal is ground to a very fine powder; so fine as to be explosive, so that it is necessary to pulverize it only as it is used. It is fed into a nozzle through which compressed air is forced and the blast is ignited. An amazing heat is developed and complete combustion of the coal to carbon dioxide takes place under the best conditions. This provides for a great economy of fuel and does away with the smoke nuisance at the same time, but it has one drawback which has not been mastered yet, else it would be already in use in steamships and locomotives as well as in power plants. The trouble is that the flame is so hot, the heat so concentrated, that boiler plates cannot hold up against it and are warped. This problem bids fair to be solved one of these days, and then our present wasteful methods of burning coal will come into ill-repute.

In motor fuel the impossible has been accomplished. With the same amount of crude oil containing the same proportion of gasoline, kerosene, fuel oil and other bodies, more gasoline and less kerosene and fuel oils have been taken out than formerly. This is like having a bushel basket with two pecks of apples and two pecks of potatoes mixed together in it, and then taking out of the basket three pecks of apples and one peck of pota-

toes. The trick consists in "cracking" the heavier hydrocarbons, that is, by taking the residues after the gasoline has been distilled off and subjecting them to certain conditions of temperature and pressure and occasionally to the action of catalysis as with aluminum trichloride, whereby the molecules are split down, bodies of the gasoline type are cracked off and a heavy residue is left. This residue may be cracked again and yet again, always yielding less gasoline. After the third cracking, the higher residues show hardly any disposition to yield light oils; on further cracking they give up the ghost, as it were, and go back, mostly to the elements of which they are composed, to carbon and hydrogen; in other words, to coke and hydrogen gas. This is what has kept up the gasoline supply. It is an American invention.

The demand for gasoline is so great that the lines of production and demand have already crossed, and it looks as though alcohol would come into use after the war is over and the present intense demand for it in the manufacture of munitions eases down. Alcohol from sawdust and other wood waste is already a commercial success, and its production from the waste liquors of sulphite pulp mills is increasing. When (under present conditions of the art of manufacture) gasoline reaches 35 cents a gallon, alcohol is likely to come in. Most of the industrial alcohol now made is produced from sugar waste or molasses. A new process that is full of promise starts with calcium carbide, produces from this acetylene and from acetylene, alcohol.

Alcohol is one of the most useful of chemical products, and it is a great pity that man is not to be trusted with it when it is mixed with some water and sugar and aromatic ethers and esters. It can be made of almost anything that grows, and of a number of things that do not grow.

Water is another great chemical, and marked advances have been made in preparing it for use. Pure water is not found in nature; even rainwater contains gases and dust in solution and in suspension while as it travels through the earth on its way to springs it picks up minerals and organic bodies that come out in the wash and in boiler scale and injure it as a solvent. A very interesting substance called permutit is growing into use that has a remarkable power of exchange whereby it makes hard water soft. Hard water contains lime and magnesium salts. If these are in the form of bicarbonates they are soluble, whereas as carbonates they are insoluble. If water contains bicarbonates of lime and magnesium and is fed into boilers, the heat will transform the salts to carbonates and these come down as boiler scale, mixed, of course, with all sorts of other things. Again, if water contains lime or magnesium salts, and it is used for washing with soap, then the soap, which is a combination of fatty acids usually with soda, will also exhibit a power of exchange; it will give up its soda to the water and take on in its place calcium and magnesium (of which the oxides are known by the more familiar terms of lime and magnesia), and we then have lime and magnesia soap instead of a soda soap. Lime and magnesia soaps are insoluble; they smear cloth that has been washed with them, make dirty rings around a bathtub, and are generally a nuisance. The permutit is a complex body with two sodium tails to its molecule, and it gives up these sodium atoms in exchange for calcium or magnesium atoms whenever water which contains these passes through a permutit filter. The water then contains just as great a burden in solution as it did before, but all the magnesium and calcium, the elements that made it hard, have been removed. Then the permutit is soaked over night in a solution of cooking salt and water; it works its power of exchange backward, so to speak, and exchanges all of its magnesium and calcium for the sodium in the salt, and is ready for business as before by morning.

The value of chlorine as a disinfectant has been known for a long time, but it was that kind of inactive knowledge that was in the minds of professional men and in books, but the public did not know it and was indisposed to believe it, or at all events to remember it when it was told. The fact has now entered into the public mind and municipalities are installing chlorination attachments to their water supplies by leaps and bounds. Since the water supply of New York city has been chlorinated not a single case of typhoid fever has been traced to this source.

Sulphuric acid has been called the old horse of chemistry, and it is frequently said that the volume of sulphuric acid made is a fair index to the industrial progress of a people. It is an old industry in this country, but the outbreak of the war and the intense demand for more and more and yet more for making munitions has put serious problems up to manufacturers. I understand that there will appear concurrently with this in Metallurgical and Chemical Engineering an article on the progress of chemistry by Mr. Henry Howard, vice-president and general manager of the Merrimac Chemical Co. Mr. Howard speaks with paramount authority on sulphuric acid, and a reprint of his article will give the last word on the actual condition of the industry today.

Nitric acid is still made from nitrate of soda or Chile saltpeter, but some is made from the air in Canada and in North Carolina, and the United States Government is preparing to produce it in quantity by an ammonia process worked out here. We shall not discuss the method that originated with Charles S. Bradley at Niagara Falls but was given up for lack of funds and then taken up by Birkeland and Eyde and made into a great success in Norway. Very cheap power is needed. Ammonia may be produced from calcium cyanide which, in turn, is made by treating calcium carbide with atmospheric nitrogen, and ammonia may be oxidized to nitric acid, but this also we shall only mention in passing, although it is probably the method by which most of the German nitric acid is procured for the manufacture of their explosives. The great problem is to get the nitrogen of the air into combination. Then chemists feel that they can negotiate with it, and the oxidation of ammonia to nitric acid has been advanced to as high a degree in this country as it probably is in Germany. The Bucher process is new and is full of promise. This is the invention of Dr. John E. Bucher of Providence, R. I., formerly professor of chemistry at Brown University. The process is based on the discovery that coke and soda ash in the presence of iron as a catalyst or sort of chemical marrying parson, heated to red heat, with air passed over it, will be transformed to sodium cyanide. On contact with steam the sodium cyanide is changed to ammonia and soda. This requires no electric power or great heat or rare materials, and while engineering details are still to be worked out, it is full of promise as a simple and cheap method of fixing nitrogen.

Acetic acid has usually been obtained by the destructive distillation of wood, being regained from acetate of lime produced by wood distillers. A new process starts with calcium carbide, producing acetylene from this by adding water, and from the acetylene gas great quantities of pure, glacial acetic acid are now made in Canada.

The prospect of cheap acetic acid after the war is very favorable and means a great deal. With it acetocellulose may take the place of nitrocellulose in moving-picture films and other objects, thus removing the danger of fire. Cheap acetic acid will also be of great advantage in many branches of chemical industry. It is the acid principle in vinegar.

Demands upon the soda industry, which are nearly equal to those upon the sulphuric acid makers, have been met, and a number of new electrolytic plants have been erected that produce caustic soda and chlorine from salt brine. An interesting development at Berlin, N. H., provides caustic soda for a large part of New England as a by-product of their production of chlorine from salt for bleaching pulp. The great Solvay works at Syracuse, N. Y., have now an almost unheard-of capacity and have become a national institution.

Here the well-known Solvay or ammonia process has been in use for many years. The salt brine is first treated with carbonic acid and ammonia, and in the chemical quadrille which follows the chlorine from the salt mates up with the ammonia to ammonium chloride, while the carbonic acid combines with the sodium to produce bicarbonate of soda. The bicarbonate precipitates in the presence of ammonium chloride, and so the two are separated. The ammonium chloride is treated with lime from which calcium chloride is obtained, and the ammonia which is recovered is used over and over again. Ernest Solvay, the inventor of the process, is the man who saved his native city of Brussells from destruction by paying the invading Germans the great indemnity they demanded in 1914. It is said that $6,000,000 was the price required to induce them to forego the exercise of such Prussian war sports as Louvain had experienced.

Potash is still exceedingly scarce, but the cement industry, by the use of the Cottrell process of electric precipitation, is furnishing from 3 to 5 per cent. of our needs. If all the cement mills of this country were so equipped, and if the iron blast furnaces of the United States were to feed potash feldspar into the charge, and then equip themselves with Cottrell precipitators, the sulphur content of the iron would be decreased and the potash so obtained together with that which might be produced by the cement industry would equal our annual importations from Germany before the war. The Research Corporation is making rapid advances in this field. The Meadows process for getting potash from New Jersey rock is an important contribution, and Searles Lake and other deposits will also soon be drawn upon on a large scale.

The cement industry is now firmly established in nearly all parts of the country. Glass has suffered from lack of potash, which it needs when a clear, transparent, shiny product is desired. But great strides have been made without it. A better electric-light bulb has been made with soda, and optical glass, formerly almost an absolute monopoly of Germany, is now made in considerable quantity in this country. A novelty in glassware is baking dishes, a great improvement on iron and tinplate kitchenware, because radiant heat goes right through the glass and cooking is accomplished in much less time than otherwise. Laboratory glassware is now also made in this country as well as is laboratory porcelain ware. All this is a development of necessity.

Among our most wasteful industries has been that of lumber. That a tree that takes from 60 to 200 years to grow should be cut and then two-thirds and more of it discarded as waste seems wrong and is wrong. We are beginning to get some of the turpentine, some of the acetic acid and some of the other bodies that we have habitually wasted heretofore, but we have not yet arrived at enlightenment. This is not said in disparagement of the lumbermen. They are not to blame. It is the rest of us who are to blame, who want just such and such lumber at the lowest cost and within the least time, and regard it as none of our business what happens so long as we get it. Reform is slow. As yet there is over two-thirds of nearly every tree wasted, although some day, and let us hope it will be pertty soon, we shall be ashamed to do such things.

Another problem that has had to be met everywhere in the civilized world is the manufacture of explosives on an unprecedented scale. The subject is so vast and has been fraught with so many difficult problems that within our limited space we can only say that the work has been done.

A very important change has been in the production of coke for smelting iron. By-product coke ovens are a comparatively modern invention, and yet before the war there was no other way in which coke was made in middle Europe. Here, on the other hand, all but a very small proportion of the coke was made in beehive ovens, and all the valuable ammonia, benzol, toluol, carbolic acid and tar was burned up. It was a veritable debauch of waste. Now over half of those wasteful beehive ovens have been replaced by those of modern design, and there is a fair prospect that ere long beehive coke ovens may be things of the past in the United States. We may need a few funerals in order to bring this about, but nothing is more certain than that the funerals will come.

As a result of this change in coke-making we have now plenty of tar. This leads us to a consideration of coal-tar products. Explosives we have passed over. The dyestuff situation is this: We had in 1914 five concerns making finished products mostly of German materials. They made about one-fifth of the coloring materials used in this country. Now we have nearly a hundred concerns engaged in making dyes, some of which do this as a side line, making three-quarters of what is needed in the United States and exporting a considerable amount to friendly countries. About one-quarter, including indigo and anthracene colors, are only beginning, as with indigo, or not yet made, as in the case of alizarine. But the missing colors will be produced within a reasonably short time—to the relief of dyers and users of dyed fabrics—and all of these products made of American materials. The industry is established. If some fabrics are not fast against washing or against light in their colors, because the dyestuffs to make them so are not available, the time will not be long before they will be available.

Synthetic medicines are coming along. The coal-tar preparations that were once thought to be a German monopoly are so no longer. Everything desired by

physicians is not yet available, but a great deal is. The more complex of these bodies do not enter very generally into active competition; the quantities demanded are not large as merchandise, and if one chemical manufacturer succeeds in the difficult art of producing a desired therapeutical agent, the price is less important than with grosser materials. The German makers knew how to charge high prices, too. Many important drugs are made here, a good number come from Canada, and Japanese chemists have proven themselves both original and competent in this work.

A new and much stronger paper, called Kraft paper, has been developed from a Swedish invention made by less severe chemical treatment of the pulp wood.

Improved methods of tanning leather have been introduced, and the production of artificial leather has become a great industry. The same may be said of the manufacture of artificial silk. The making of special alloys of steel to meet special requirements has made marked advances.

A new phase of applied chemistry is the control of merchandise. A few of the largest mercantile houses in the country have established large laboratories, and make chemical and physical tests of the wares they sell in order that they may know what the nature of their guaranty is.

The American Chemical Society is the largest association of chemists in existence, having now over 10,000 members. Chemistry has become one of the great professions of America. The key to chemical advancement has been many years of sound teaching by American professors in colleges and universities and research. Now, research does not consist in thinking up a clever idea and then rushing off to a patent lawyer. It demands thorough training to start with, and then special character and temperament to do the work. It is often long and arduous, and by no means always successful. But it is the only way to get results. Our research laboratories are the greatest step in advance that American chemistry has made. In them most of the modern industrial advances are born. American men of affairs are beginning to learn how needful they are to progress, and Business is getting acquainted with Chemistry. That is the thing desired.

How to Make America Independent — Production Rather Than Price of Prime Importance

By GEORGE OTIS SMITH, Director United States Geological Survey, Washington, D. C.

In September, 1914, in selecting a subtitle for the United States Geological Survey bulletin, "Our Mineral Reserves," I hesitated a little before committing myself to the optimistic phrase "How to Make America Industrially Independent." Some large things, however, have been done in the three years now past, and a larger degree of national independence has been attained in the mining, metallurgical and chemical industries. Even a brief review of this progress during the war period will serve to exhibit the gratifying expansion of productive capacity of mine and smelter, but also to emphasize some deficiencies of supply that call for remedy.

The large domestic industrial demands for the mineral fuels and the more important metals have been met by rapidly increased output and a larger excess made available for export. In minor minerals, material of domestic origin has replaced what was formerly imported. New needs have developed as the result of industrial advances to meet war conditions; for example, the successful manufacture of optical glass on a large scale has necessitated the search for glass sand of a degree of purity never before required by American glassmakers. All this expansion and new development has been profitable in a national sense. America is stronger because of this larger utilization of the useful minerals.

Yet, some of the deficiencies noted in 1914 present problems in 1917. This group of "war minerals" includes potash, pyrite, platinum, tin, nickel, manganese, tungsten, antimony and chromite, for although in all of these there has been increased output, this production has not at all kept pace with the increased consumption. To this extent, then, America is not yet industrially independent.

The 14,000 tons of potash just reported by Mr. Gale as produced in the United States in the first six months of 1917 exceeds by nearly 50 per cent. the domestic output for the whole of 1916, which, in turn, was ten times the production reported for 1915, yet the expected potash output for the present year does not represent more than about 10 per cent. of what this country consumed annually before the war.

Manganese ore is a raw material most essential to America's steel industry, and although our mines have increased their output twenty fold since 1913, the 80,000 tons which Mr. Hewett has estimated as the probable production for the current year represent only about 12 per cent. of the American consumption.

A domestic supply of pyrite is another demand which industrial chemists are making upon their associates, the mining men. The output from American sources last year increased nearly 40 per cent. over the 1913 tonnage, but the corresponding increase in imports was almost 50 per cent. Six months' figures for the present year as estimated by Dr. P. S. Smith show a further 10 per cent. increase, but, of course, this does not counterbalance the current deficiency in imports.

No better example of production expansion to meet the increasing demand can be cited than coal. Last year the output of bituminous coal was 25,000,000 tons more than for any previous year, and already 1917 shows an even larger increase. According to Mr. Lesher's weekly reports, the estimated surplus in production on September 1 over the corresponding period of last year was 39,000,000 tons, showing that any current deficiency is due to the large excess in demand over that of any other year.

These statements are indicative of a speeding-up that might be expected under present conditions, yet plainly the pace has not yet been reached that our natural resources and our engineering genius would seem to justify in time of emergency.

Whoever studies the mineral resources of the United States and the industries built thereon must realize that in a time of need like the present year production rather than price is the matter of prime importance; that a high price may both stimulate production and increase available reserves; that home production can secure transportation savings that are in reality a national benefit of practical value comparable with the theoretical advantage of industrial independence, and that expansion of productive capacity is possible under war conditions only as both consumer and producer can adjust their projects to after-the-war conditions as well as to the needs of the present emergency. Illustrations of these four propositions come at once to mind.

Potash is so essential to chemical industries that a high price has been willingly paid for the small percentage thus needed, and domestic potash has come from sources that would be unproductive under more normal conditions. A potash industry to supply the other 90 per cent. of our needs—mainly to fertilize the millions of acres upon which larger demands are being made for foodstuffs and cotton and tobacco—must be based upon resources or methods of recovery permitting lower costs of production.

The recent history of benzol production also well illustrates stimulation by increased price. In 1914 the price of benzol was below 20 cents, with little demand; now the price is 55 to 60 cents a gallon for benzol and $1.75 to $2 for toluol, with the result that last year the output of these oils was about 44,000,000 gallons, or five and one-half times the 1914 production.

The increase in reserves due to higher prices and to improved mining and metallurgical practice is shown in the case of several of the metals. Whether the margin of profit is increased by raising price or lowering costs, the beneficial tendency is to reduce the grade of ore that can be profitably utilized, and this means increasing the nation's reserves of ore and thus placing one industry on a more lasting foundation. This stimulating reaction of profit upon engineering efficiency is the promise of future continuance of the supply of the essential metals, such as copper and iron.

The economy of domestic production wherever possible may be shown in the present manganese situation. The Virginia miner who puts on the cars 4500 tons of high-grade manganese ore this year is not only contributing to the steel industry that tonnage and receiving therefor compensation at the market price, but he thereby relieves the country's shipping shortage to the extent of one ship for 38 days, not including the time necessary for loading and unloading the cargo of Brazilian ore.

Finally, the proposition that present expansion of business must take into account the future is almost self-evident, although often overlooked. Opening up pyrite mines must be based upon an assured supply of ore in the ground and an assured demand for the product for a period long enough and at prices high enough to justify the development. It is not enough for the geologist to point out the ore; the acid manufacturer needs to contract both to buy the pyrite and to sell the acid. New development must be upon a basis of something more than risk, lest expansion of productive capacity involve after-the-war losses that will swallow up war profits.

To make America industrially independent is an aim perhaps even more desirable now than three years ago, and possibly also even more of a problem than was then realized.

What We Are Doing Toward Remedying the Potash Shortage

By RICHARD K. MEADE, Consulting Chemical, Mechanical and Industrial Engineer, Baltimore, Md.

Up to the time of the French revolution potash was much more used in the arts than soda, and both were obtained from natural sources, the former from most wood ashes and the latter only from the ashes of certain plants growing along the seashore, chiefly in Spain, which country produced most of the soda then used. At the outbreak of the revolutionary wars Spanish soda and potash were cut off from the French, and all of the latter produced in France was needed for the manufacture of gunpowder, in consequence of which various industries making use of alkalies, such as the manufacture of soap and glass, were very seriously interfered with. The committee of public welfare ordered, therefore, that all manufacturers of soda should deposit with them for the public good complete descriptions of the processes, etc., which they employed. A chemist, Leblanc, was one of the first to comply with this demand, and he turned over to the committee his process and plant for the manufacture of soda from common salt. The committee published his data, this process proved practical, and its introduction soon saw the entire replacement not only of natural soda, but also of much potash by the artificial soda made from salt.

This little bit of history is given to show that the necessity of France resulted in making available to the world a cheap source of soda—common salt. Will, therefore, the present world's war, which has already stimulated the ingenuity of man to a greater extent than any previous war, result in giving to the Allies cheap enough potash to break the present German monopoly? Hopes are raised by what has been achieved in other industries rather than by any results so far actually obtained in securing potash, for the probability that our dyes will always hereafter be made in our own works and that the development of our water resources will break the Chilean nitrate monopoly lead us to hope that the ingenuity and enterprise will be forthcoming to solve the potash problem also.

Potash in Agriculture.

The gradual replacement of potash in the arts by the much cheaper alkali soda has relegated potash to a point where by far its most important use is for fertilizer. We must remember, therefore, that, in spite of the prominence given to the urgent need for it in

certain industries, the great bulk of this chemical is sold to the farmer.

Potash exists in a number of common minerals, such as potash feldspar, and also in clay, and hence in the soil. Such potash is not soluble in water, and thus cannot be conveyed directly to plants by the water percolating through the soil. Potash also exists in the form of certain salts, such as muriate of chloride, sulphate, nitrate, phosphate, etc., of potash which are soluble in water and hence which can be carried directly to the plant by this means.

For this reason the theory is generally held among agriculturists that potash to be valuable as a fertilizer must be in some water soluble form. As the German propaganda, which is undoubtedly responsible for the large use of potash in agriculture, was intended to sell *water-soluble* salts, it directed particular attention to potash in this condition and disparaged the use of minerals in which the potash existed in an insoluble form. It is known, however, that the potash in the soil is slowly liberated by lime, and also by the gypsum in acid phosphate. Hence there is the prospect that by liberal applications of lime with or without pulverized feldspar to soils throughout a period of years the potash will be after a time converted to plant food. Research along this line may show that ground feldspar and lime would answer fully as well as the water-soluble salts. As feldspars and limestone are distributed all over the world, this would open up a cheap source of potash to the farmer. There are also extensive deposits of other potash minerals in various localities, such as the green sands or glauconite marls of the Atlantic Coast, which are very plentiful in New Jersey, Delaware and Virginia, and which are found adjacent to large beds of impure lime material in the form of marl and shells.

Already in a number of chemical industries in which potash was formerly used the exigencies of war have made the substitution of soda for potash necessary, and as soda, even normally, can be obtained for about one-fifth to one-tenth the price of potash, it is doubtful whether some of these industries will ever return to potash salts. Possibly cheap substitutes for potash in agriculture may also be developed of our need. Nevertheless, the demand for potash *now* is great, and the quantity which would be used if obtainable is large.

Former Imports and Present Production.

In the year preceding the war, 1913, Germany exported to this country over $15,000,000 worth of potash salts, representing about 250,000 tons of pure potash. This was about one-quarter of the total German production that year, of which total one-half was consumed in Germany and the other quarter exported to nations other than the United States. Of the 250,000 tons of potash imported into this country, about 235,000 tons is used for fertilizer and 15,000 tons in the arts. It will be seen, therefore, that the chemical industries use only a very small part of the potash imported.

Since the war began the production of potash from native sources has been the subject of much investigation on the part of chemists, and some capital has been invested in serious attempts to produce potash salts. The United States Geological Survey estimates that potash salts equivalent to 10,000 tons of pure potash were produced in 1916 from the following sources:

From natural salts or brine, 3850 tons.

From alunite and silicates, including furnace dust, 1900 tons.

From kelp and wood ashes, 1300 tons.

From industrial wastes, 1750 tons.

The industry only got a start in 1916, however, and this year the production of potash salts will be several times the above. Much of this production, however, can only continue with high prices for the product.

Production of Potash From Brines.

It is natural that the first attempts to obtain potash in this country should be connected with the evaporation of certain brines and lake waters in the West which were known to contain appreciable amounts of potash, notably Searles Lake and Owens Lake, in California; Summer Lake, in Oregon, and certain small lakes in the Sand Hills region of Nebraska. The waters of the Great Salt Lake, in Utah, also contain some potash.

The American Trona Corporation, organized in 1913 to produce potash from Searles Lake, has spent something like $2,500,000 in building plants and a 30-mile railroad connecting the lake with the Southern Pacific Railroad. In addition to potash, the water of Searles Lake contains borax, common salt, sodium sulphate and soda ash. Those obtained in largest amounts, unfortunately, are the common salt and sodium sulphate, which are of little commercial value.

Numerous small lakes in the Sand Hills of Nebraska have so far produced by far the largest quantity of potash obtained from brines, etc. Two companies are producing steadily in this section, and are meeting with great financial success—the Potash Products Co. of Omaha, Neb., and the Hord Alkali Products Co. of Lakeside, Neb. This region is peculiar in that the lakes themselves are not particularly rich in potash, but beneath them is a sand bed which is thickly impregnated with a potash brine, and this is evaporated and a product obtained running from 20 to 30 per cent. potash. These two concerns can produce about 10,000 tons of pure potash annually.

Attempts on a small scale have also been made, but with no degree of commercial success, to concentrate the potash in the waters of Owens Lake and the Great Salt Lake.

As to the chance of obtaining our potash from these lake sources in normal times, these objections maintain to those on the Pacific Coast the cost of fuel for evaporation is high, large quantities of other chemicals are obtained along with the potash which must be sold to make the commercial success of the plant possible, the market which can be reached from these lakes is not good for such disposal, and the freight rates to Eastern markets are high. In the case of the Nebraska lakes, which would promise most, the supply of brine is limited.

Production From Kelp.

The production of potash from kelp was undertaken with a good deal of enthusiasm even before the war, and as early as 1911 a concern (the Pacific Mulch Co., Terminal Island, Cal.) was harvesting, drying and chopping up this kelp, which they sold direct in this condition for fertilizer, and they have been followed since by a number of concerns doing the same thing. The largest of these is Swift & Co., who leased a small plant at San Diego, Cal., several years ago. This plant has been improved and greatly enlarged, and now produces daily about 20 tons of dry kelp containing 15 per cent. potash, which is shipped East to the fertilizer plants of Swift & Co. and used in mixed fertilizers.

The American Potash Co. was the first concern to attempt to extract potash from kelp ash. This plant has now passed into the hands of the American Products Co., who propose making not only potash, but also a celluloid composition suitable for knife handles, etc., from the organic matter of the kelp.

The Hercules Powder Co. have the only large plant for producing potash from kelp. This plant, located at Chula Vista, Cal., not only produces potash, but also acetone, the acetone being formed from the organic matter of the kelp by fermentation, and is largely used in the manufacture of powder. This plant is treating 1500 tons of wet kelp per day and obtaining thereby 18 tons of potash.

The United States Government is now investigating with a full-size plant the destructive distillation of kelp, whereby in addition to potash, tar, ammonia, iodine and charcoal will be obtained, and also gas, which will be used to heat the retorts in which the kelp is distilled.

The attempts to secure potash from kelp have been particularly disappointing. Although, as I have said, entered into with a good deal of enthusiasm by both amateurs and some concerns amply backed by capital and technical skill, no one now seems disposed to predict any great expansion of the industry. In the first place, the quantity of kelp available was far exaggerated its size and prolific growth apparently appealing to those given to estimating on appearances rather than scientific data. The kelp as cut contains only about 1.5 per cent. potash and 90 per cent. water, a relatively enormous quantity to be evaporated in a locality where fuel is dear. Lastly is the difficulty of harvesting and transporting the kelp to the mill.

It is estimated that the plants now in operation on the coast have a capacity equivalent to 10,000 tons of potash annually, but it is very doubtful if they will produce anything like this, because, if for no other reason, the quantity of kelp available is insufficient.

Potash as a By-Product of Other Industries.

The writer pointed out the loss of potash by volatilization from the rotary cement kiln as far back as 1903, and similar loss from the blast furnace has been noted even before this. Nothing, however, was done toward collecting from either source prior to 1914, although various suggestions along this line were made.

Some 10 years ago a fight arose between the orange growers in Southern California and the cement mills over the question of the damage done by the dust from the cement mills which settled on the trees and fruit. To prevent further dispute, the Riverside Portland Cement Co., Riverside, Cal., installed a process for precipitating the dust by means of an electrical system invented by Dr. F. G. Cottrell, now of the Bureau of Mines. This process proved not only efficient as a dust-catching devise, but also collected the potash with the dust, the result being a mixture of dust and potash, the former being in very much the greater quantity. This potash is most of it water soluble, and if the dust is leached with water, potash will dissolve out of it, and may thus be separated from the dust.

The quantity of potash volatilized and escaping from a cement kiln is directly proportional to the amount of potash in the raw materials, other things being equal, and amounts to about half the potash fed into the kiln. At Riverside prior to the war the raw materials were low in potash, and hence the amount volatilized was small. After the outbreak of the war the Riverside company found they could increase the output of potash from their kilns by mixing with the latter feldspar, which can be done without injury to the cement. It was also found that by mixing fluorspar with the raw materials the amount of potash volatilized was increased from 50 to 90 per cent. of the amount in the raw materials. They next extracted the potash from the dust, crystallized the same and thereby secured a potash salt containing at least 35 per cent. potash.

The crust which collects in the stacks of the rotary cement kiln contains from 6 per cent. to 12 per cent. potash, and since 1914 large quantities of this have been sold to the fertilizer companies. The Security Cement & Lime Co., at the instigation of their manager, Mr. J. J. Porter, installed and put in operation in the summer of 1916 the Cottrell process, with a view to catching all of their kiln dust. They have found that by adding salt to their raw materials they obtained a greater amount of potash, and it is now their practice to do this. At the present time they are obtaining about 20 tons of dust per day, averaging 10 per cent. water-soluble potash. This installation has long since paid for itself, and the annual profits would represent several times the original investment.

The Santa Cruz Portland Cement Co. are now recovering 700 pounds of potash daily from their kilns by a secret process of their own.

Among cement companies who are installing or have installed the Cottrell system for recovering potash are the Whitehall Portland Cement Co., Cementon, Pa.; the Coplay Cement Manufacturing Co., Coplay, Pa.; the Dexter Portland Cement Co., Nazareth, Pa.; the Clinchfield Portland Cement Corporation, Kingsport, Tenn.; the Ironton Portland Cement Co., Ironton, Ohio, and the Alpha Portland Cement Co., Cementon, N. Y. When these plants are in operation the total potash recovered from this source will approximate 10,000 tons annually.

I estimate that there are now volatilized from the cement kilns of the country approximately 72,000 tons of potash per year. At $80 a ton, the pre-war price (equivalent to $40 for muriate), this would represent a value of $5,760,000. It is further possible to very greatly increase this quantity of potash by using some feldspar as a raw material.

The only objection to installing the Cottrell system is the cost, which in the case of the average-size cement mill would run somewhere around $100,000. Improvements are now being undertaken, however, in the system which it is believed will greatly cheapen it. To equip all the plants in this country for potash would cost approximately $10,000,000.

While the first cost of the system is high, the cost of operation is very slight, and the potash can unques-

tionably be collected for much less than it could be obtained from Germany before the war.

As I have said, potash is volatilized from the blast furnace. The amount, as in cement manufacture, is proportional to the potash in the raw materials.

As far as I know, the only iron company which is at the present time selling potash is the Bethlehem Steel Co., which has done much to "put a crimp" in the Kaiser. They have been selling only the dust which could be collected by means already at hand. Their chemist, Mr. Wysor, estimates that this amounts to only 4 per cent. of the total potash liberated, and that apparatus could easily be installed to catch at least 50 per cent. of the potash now lost, and that such apparatus, so far from interfering with the operation of the plant, would benefit the same by better cleaning of the gas for the engines.

It is estimated that the potash volatilized in the blast furnaces which can be recovered will average at least 10 pounds of potash per ton of pig-iron, or on an annual production of 25,000,000 tons of pig-iron the blast furnaces of the United States would produce, say, 125,000 tons of potash, having a value of approximately $10,000,000.

It will be seen that even under present conditions, by simply collecting the potash now lost, the cement and iron industries would produce four-fifths of the amount of potash formerly imported from Germany.

The production of potash from beet sugar and molasses, wastes, etc., has been undertaken at quite a number of plants. While the quantity of potash which can be recovered from this source is small, the recovery is very simple. Mr. Zitowski of the American Beet Sugar Co. estimates that there can be obtained from the average sugar-beet crop (or 6,000,000 tons) between 6800 and 7500 tons of potash. The Western Alcohol Products Co. of Agnew, Cal., is one of the companies manufacturing potash from beet-sugar waste, and according to the local papers the United States Industrial Alcohol Co. proposes also to do this at their plant at Curtis Bay, Md.

Potash From Minerals.

The question of the extraction of potash from silicate rocks has been the subject of much chemical investigation, and many patents on processes looking towards this end have been granted. A complete summary of these various patents would be beyond the scope of anything except a very technical article. I might mention several of these, however, which seem most probable of success and for the undertaking of which capital has been either spent or is promised.

One of the best known patents is that granted to Major A. S. Cushman, in which feldspar and limestone are ground and mixed with calcium chloride and the mixture heated in a rotary kiln. This renders the potash soluble, and it may be extracted from the mass with hot water and separated from impurities by crystallization. I have understood recently that it is proposed at once to erect a plant for carrying out this process.

Another process along somewhat similar lines, which is well thought of, is that of Dr. Fred Tschirner. In this process green sand, or glauconite, takes the place of feldspar and salt that of calcium chloride. The mixture is treated as in the Cushman process. The advantage which green sand has over feldspar is the ease with which it can be obtained. Feldspar is either mined or quarried, and as it occurs is usually mixed with much quartz and foreign material, which must be picked out by hand. It is also a very hard mineral to grind. Green sand occurs in beds like ordinary sand, can be dug with a steam shovel, and is much softer than feldspar. Plans are now being prepared for a plant to carry out the Tschirner process on a large scale.

The Atlantic Potash Co. recently bought the idle plant of the Northampton Cement Co. at Stockertown, Pa. It is now operating under patents to Geo. F. von Kolnitz. His process consists in oxidizing green sand and heating the same with calcium chloride without the use of lime. This plant is now in operation, and we understand that some potash has been produced.

Another process which is actually in use is that of Dr. S. Peacock, which consists in heating either green sand or feldspar and milk of lime under high pressure in an autoclave, whereby the potash is made soluble and is leached out. It is claimed that the residue can be turned into a very superior sand-lime brick.

The Waverly Chemical Co., Camden, N. J., operated under Dr. Peacock's supervision, using green sand. It made some potassium carbonate which was sold to glassmakers, but is not now in operation. The Kaolin Products Co., Jones Point, N. Y., is using the same process, and is also producing sand-lime brick.

The Buffalo Potash & Cement Co., Buffalo, N. Y., is to operate under patents granted to H. G. Brown, who proposes to fuse together limestone, feldspar and calcium chloride in a metallurgical furnace. Potassium chloride is given off as a fume, which is to be collected by a Cottrell treater. A slag is also obtained, and it is proposed to make a superior slag cement from this.

Nearly all investigators realize that a ton of feldspar as mined contains on an average only $6.40 worth of potash under normal prices, and hence any process to be successful must obtain and treat a ton of feldspar for considerably less than $6 if a profit is to be made. Feldspar contains alumina also, and many processes propose to convert this into alum, alumina, etc., and so divide the expenses of the process between the potash and other products. In many of the processes the quantity of potash is very negligible compared to that of the other products to be obtained, and under normal conditions its value would be far less, so that in many of them potash is really the by-product and the other constituent the main one.

Other potash minerals than feldspar and green sand exist in various parts of the country. The leucite deposits of Wyoming are large, and are now being exploited by a number of concerns, but no actual quantity of potash has been made from these. The alunite of Utah was supposed to represent a very cheap source of potash. I believe, however, that the recovery of potash from this mineral has proved difficult, although it is being successfully done by the Mineral Products Co. at Marysvale, Utah, who produce, I understand, about 15 tons of potash daily.

Summing up the situation, I believe that the largest future source of cheap potash available in the country is in the iron industry and cement industry, which could be made to produce almost all of the potash formerly imported from Germany. Other promising sources of small amounts are from the evaporation of brines and from beet-sugar waste. There is always the possibility, too, that some of the processes now proposed for the manufacture of potash direct from green sand or feldspar will prove commercially successful.

Where Knoxville Got Its Inspiration to Make an Exhibit at the Chemical Exposition.

Knoxville Board of Commerce.
Knoxville, Tenn., September 13.

Editor Manufacturers Record:

Growing out of the inspiration received from the Chemical Number of the MANUFACTURERS RECORD, Knoxville took an inventory of itself and the region of which it is the geographical center, and came quite naturally to the conclusion that we had in our midst a storehouse of raw materials which we might well put on exhibition at the Third National Exposition of Chemical Industries, to be held in New York city the week of September 24. We have been working on this matter for quite some time, and are shipping our exhibit the latter part of this week.

We are gratified to know that our space is located near the booth of the MANUFACTURERS RECORD.

We felt you would be glad to know that Knoxville had decided to make this exhibit.

Cordially and sincerely yours,

J. L. BOWLES, JR.,
General Secretary.

Chemical and Mineral Resources Along the Central of Georgia Railway.

An elaborate and comprehensive pamphlet dealing with the mineral and chemical resources of the territory it covers has just been published by the industrial department of the Central of Georgia Railway. The pamphlet was compiled under the direction of Dr. T. Poole Maynard, the consulting geologist for the railroad. It covers all of the wide range of minerals available for practical and profitable development in the sections of Alabama and Georgia through which the railway runs.

As pointed out in the pamphlet, the Eastern United States is subdivided into six physiographic and geologic divisions. The Central of Georgia passes through four of these subdivisions and extends up to the fifth. This accounts for the great variety of rocks and minerals, together with fuels of great quantities and the availability of extensive hydro-electric power available in the Central of Georgia territory.

A map is contained in the pamphlet which shows the presence, relation and location of the mineral deposits and emphasizes the value of well-located manufacturing sites in relation to the assembling of raw materials, their economic manufacture and the ready distribution of finished products by rail and water.

This important pamphlet, which has been developed under the direction of J. M. Mallory, industrial agent, Savannah, Ga., will be distributed from the company's booth at the Third National Exposition of Chemical Industries at the Grand Central Palace, New York city, week of September 24.

Congress and the Oleomargarine Suppression by Government.

House of Representatives, United States.
Eighth District of Louisiana.
James B. Aswell, M.C.,
Member of Committee on
Roads, The Census, Insular Affairs, Expenditures in the Department of Agriculture.

Washington, D. C., July 30.

To the American People:

Owing to the very high price of butter, and the now well-established fact that food-oils (peanut, cottonseed, soya bean, oleo, neutral, etc.), when properly churned in milk, produce a table food in every way as wholesome, nutritious and palatable as butter, and as these oils are now much cheaper than butter, a great many inquiries are being made for formulas and methods for so churning the oils. The law requires the produce to be called oleomargarine.

I have been unable to procure any satisfactory information on the subject, but I have been furnished the following for home use, viz.:

"Heat a quantity of good deodorized cooking oil to about blood heat, using about one-fourth of a teaspoonful to each gallon of milk, and proceed as usual. A three-gallon churning will take about half a pound of oil. It will hasten the coming of the butter, assist in its better collection, improve the quality of both it and the buttermilk, and will give, with the better collection of the butter-fat, an increased yield of nearly a pound and a profit equal to the difference between the price of the butter and the cost of the oil."

The department here, to whom one would think it proper to appeal for information of this kind, declines to give the public instructions on this point, as it is feared that if the people should learn to produce this food they might be tempted to sell the same or to use it in boarding-houses or schools. This it is unlawful to do, unless the person producing this table food should pay $600 per year license and give a bond for $5000, and unless dealers who handle this food will also pay very high licenses.

These great expenses and the dangers of prosecution have made it so that only a few large concerns can take the risk, and therefore it seems only a few persons know how really to make oleomargarine. Those who do know and who have the proper kind of cooling and churning machines can take the milk necessary to produce one pound of butter, so I am informed, and, by the use of these food-oils, produce 20 pounds of palatable oleomargarine.

I believe that all the people should be taught to produce this good food, and that they should be allowed to do so without the payment of licenses and taxes.

I would be glad to have your co-operation in securing the removal of these unjust burdens from a large part of the food supply of the American people.

J. B. ASWELL.

The Daily News Record (New York) states that England plans to add 100,000 non-combatant Chinese laborers to her forces in France.

MIGHTIEST BUSINESS INTERESTS, IN COUNTRY OF MIGHTIEST POTENTIALITIES, PLEDGED TO WAR

THE GREAT CONVENTION NOW IN SESSION AT ATLANTIC CITY

(Editorial Dispatch to Manufacturers Record.)

Atlantic City, September 18.

A mighty gathering of the mightiest business interests of the mightiest country on earth in potential power for war as well as for peace might well be the characterization of the great War Business Convention, which is now being held at Atlantic City under the direction of the United States Chamber of Commerce. If there had been no other reason for the existence of that organization, the work which it has done in concentrating in this convention the thought of the nation upon war as the nation's business would have more than justified its existence.

No man could attend the opening sessions of this convention and study the spirit dominating it and study the faces of the members in attendance without being tremendously impressed with the mighty movement which is now being set in motion by this convention looking to the concentrating and the consecration of the whole business interests of America upon making war and making it with all the power and vigor and determination of this great country.

Sometimes as I have studied the faces and the heads of the five or six hundred members of the American Iron and Steel Institute who attend its annual gatherings, men controlling the greatest business industry in the world, producing more than one-half of the iron and steel made on earth, I have marveled at the strength of character displayed, at the massive heads, at the clear-cut faces of these men, and when I have thus studied them I have not wondered that they have taken such a dominant part in the creation of the world's greatest industrial interests. As I have looked into the faces of these men at the annual gatherings, beginning my close personal study of them from the beginning of the celebrated Gary dinners on to the organization of the Iron and Steel Institute, I have thought that without exception it was the most remarkable body of men, whose faces showed tremendous power to achieve things which I had ever seen. But today as I looked out over the great throng which had gathered at the call of the United States Chamber of Commerce and studied the leonine heads of many of the great business leaders of the country, watched with care the faces of many of these men and looked into their eyes, I thought I saw a more wonderful gathering of mighty men of mighty power than I had ever seen, even in the meetings of the American Iron and Steel Institute.

No one industry and no one section is dominant here. Men from all parts of America, from the far South to the far North, from the East to the West, are here to give voice to their determination to concentrate the utmost energies of their lives to doing the things which make for the nation's success in war.

From this meeting the men who have caught the inspiration of the truly wonderful speeches that have been made, of the enthusiasm which has been dominant, there will go forth a great influence to bring forth similar meetings, even though on a smaller scale, in the communities throughout the country represented by those at this meeting. Thus a mighty impulse will be given to the nation's whole-souled consecration to the supreme work of the world—the saving of civilization.

It was appropriate that a South Carolinian, President R. G. Rhett, one of the leaders in the material development of the South and of the nation, should open the convention with a stirring appeal which so thrilled his hearers as to cause them at the close of his speech spontaneously to arise and with enthusiastic applause endorse what he had so tellingly said. His speech and the spontaneous enthusiasm of his audience set the pace for the day. President Rhett, through his opening address, called the nation to arms and called the business men of the nation to a devotion to the nation's welfare, commensurate to that devotion which the soldier gives when he offers his life on the altar of civilization. His appeal stirred every heart.

"In times past," said Secretary of War Baker, who followed President Rhett, "we have tramped this boardwalk and listened to the sound of the ocean. We have thought that the waves were bringing to us from the other side messages of love and peace, but today as we tramp this boardwalk another message comes to us from the waves. We hear the wail of dying children as they are sent into eternity by the submarines, crying in vain for their mothers, for they too are being swept to ruin, unable to hear or rescue their loved ones. We hear the message of woe that comes from the battlefields, and as we listen to what the waves are saying, we are asking them to take back to Europe, to the women and children, to the soldiers fighting on the battlefield, the message of America, 'We are coming millions strong to fight with you for civilization.'"

Not in exact words am I attempting to quote him, but this is about the way he put the story of what the waves are saying today as compared with the message of peace which they brought in the past.

Those who had heard Secretary Lane knew full well that he would bring to this meeting a message of tremendous import. They were not disappointed. He called the nation to sacrifice and to service. He suggested that every business man in America should have somewhere in his office a picture of the soldier boy in khaki, and that whenever the question of profit, or patriotism, of price as regulated by the law of supply and demand, or of price based on the world's needs arose, he should turn his face to the boy in khaki and ask what that boy had done in offering himself and what, therefore, he should do in offering the possible profits of his business. It reminded me of the streamer carried by some of the Maryland troops as they marched through Baltimore some weeks ago, bearing the inscription, "We have given ourselves, what will you give?"

That question of the Maryland soldiers, which must have stamped itself indelibly upon the brain and heart of all who watched these men as they marched away, is the question which in its broader sense this meeting is asking not only of those in attendance, but of every business man, indeed, of every man and woman in America.

"We have given ourselves, what will you give?" is the question that a soldier has a right to ask. He has a right to know that all the potentialities of American energy, all the potentialities of American inventive genius, all the potentialities of the vast, the almost limitless, natural resources and wealth of this country shall be consecrated to this war with an abandon equal to that of the soldier who consecrates himself and offers the highest testimony which man can give of his love for another in that he is willing to lay down his life for his country and for the suffering ones who must be rescued.

No man could listen unmoved to Secretary Lane in his appeal to the business men to forget for the time being all thought of accumulating money, all thought of business merely for the profit that is in it, and to consecrate to the utmost extent of their power, their energy and their business to the nation's success in the great war in which we are engaged. It was a stirring appeal which will change the thought of many a man as to his own responsibility for his own business and his responsibility to the nation.

And then came the Rev. Newell Dwight Hillis, who is just back from a two months' personal investigation of the battlefields of France and Belgium, where he studied at first hand the reports as to atrocities, finding the facts far surpassing all that he had ever heard or all that he had ever read in American papers. He stood aghast at the situation as he found it, at the suffering of the women and children, at the outrages which are almost beyond human belief, indeed would be unbelievable if not so fully substantiated, at the cold-blooded murdering of helpless babes and little children, of the shooting down without provocation of old men seventy and eighty years of age, merely because there were no young men left in a conquered town upon whom the Germans could wreak their vengeance. Elsewhere in this issue will be found the substance of some of the things said by him, but no printed word could convey the force of the story as he told it for an hour or more to an audience which was dazed at the horrors of the picture he painted. Every man who lis-

tened to that speech, and every woman, for many women were in attendance, must have registered before high Heaven a solemn vow to dedicate their lives to the one supreme question now before all the world, not merely to make the world safe for democracy, but to make the world safe for civilization.

The whole spirit of the convention is one which must permeate every life in the nation. It will call the patriots to arms, it will sound the doom of the pacifist and the pro-German, for it will mean that this whole nation will bend every ounce of the exhaustless ingenuity and resources of this wonderfully blessed land to fighting with a vigor which will match that of the Allies, as for the last three years they have poured out their blood and their treasure not only to save themselves, but in doing so to save this country.

This will be an unhealthy land for the pacifist and the pro-German, and they are one and the same. The latter is openly working with Germany in all of its hell-born activities, and the other is merely an ally of the pro-German, working in the same cause. This nation will not much longer permit either to continue their activities for the express purpose of striking in the dark in the back the soldiers who have been called out in this great world war to give themselves in behalf of our country and of all civilization. The murderer who stealthily creeps from the dark alley and stabs his helpless, innocent victim for robbery is not more guilty and despicable than the pro-Germans and the pacifists who today roam this land and out of the dark alleys of devil-devised hiding places stealthily send the poisoned dagger through the back into the heart of the nation's life.

In this convention, called as it is "A War Convention of American Business," an example has been set for every business organization in America, be it that of the bankers, the manufacturers, the merchants or what not. The business of this nation today is war, and upon that should be centered the entire activities of mind and body of every man and woman in America. Every non-essential, whatever it may be, which does not contribute to strengthening the nation for the making of war should be put aside. No man has a right to expect to accumulate money during this war or out of this war. Every man should work to the utmost limit of his ability to make money only that he may contribute it to the nation's success. The accumulation of money out of war activities by employes or by employers in this hour of world tragedy, when millions and millions are dying of starvation and other millions are dying on the battlefields, and yet other millions must suffer and die, would be a crime which in the years to come would make any man ashamed to admit that he had made money and saved money during this war. Make it he should, with all the power at his command, and then use it for others. The soldier asked the question, "We have given ourselves, what will you give?" and every honest-hearted man in America, laborer or capitalist, must to his own conscience and to God Himself answer.

What will your answer be? R. H. E.

Opening Session of Epoch-Marking War Convention

By Howard L. Clark.

Atlantic City, September 19.

Hundreds of the foremost business men of this country as represented by the Chamber of Commerce of the United States assembled this week at Atlantic City to hold a war convention of American business in order that they might, in discussing the war situation among themselves and with high Governmental officials learn how to better co-operate with the Government in this nation's fight for democracy and civilization. They have come together with a spirit of deep patriotism, realizing the responsibility resting on them and ready to give still more time and money, and, what is most important of all to the Government and Administration officials at Washington, their priceless knowledge of business matters gained only from years of experience in industry, in farming, in banking and in every line of endeavor that goes to make up our nation.

Monday afternoon, during the meeting of the National Council of the Chamber of Commerce preliminary to the War Convention of American Business Men, whose sessions began Tuesday, emphasis was laid on the fact that whatever was suggested and recommended by the board as of value in winning the war should be attended to, not tomorrow or the day after, but at once, for war does not wait.

R. Goodwyn Rhett of Charleston, president of the Chamber of Commerce of the United States, presided at the meeting and made a brief talk, setting forth the aims and the meaning of the convention. He said the meeting was called together for two purposes.

The first purpose was that the board of directors appointed by the National Council had certain matters that had to be brought before the Council assembled for its approval, and which had to be voted on before they could be carried further.

Second, it was called together for the purpose of making the members better acquainted with their duties and responsibilities, and to interest the business men of the country in a deeper study of the war problems from a national viewpoint and from a point of view of a common welfare and a thoroughly democratic principle.

President Rhett then introduced John H. Fahey of Boston, a former president of the Chamber, who, in a forceful address, said:

"We are meeting under circumstances never anticipated when the foundation stones of this organization were laid. We were brought together to consider by what ways and what means we may best serve the nation and the cause of humanity in this great struggle, because it is a part of the duty of the business men of the United States to see to it that success is assured.

"This war is fundamentally a struggle of nations in which the control of materials and machinery is as important as the mobilization and training of men.

"The speed, ingenuity and efficiency with which the United States provides transportation, munitions, food and equipment for the use of the fighting men on all battle fronts will measure the length of the war and limit the terrible sacrifice of human life.

"This tremendous enterprise is therefore especially a concern of business, and it is the task of American industry to answer the call which the world and humanity makes upon it in such a fashion that never again will a group organized in the form of a government threaten the liberty of mankind and the progress of civilization.

"American business hears and understands the call, and never in the history of any people have men of business responded with greater devotion, energy and sacrifice than have those of our country. Recitation of the inspiring incidents in which business played so splendid a part in the early days of our participation is superfluous.

"The whole country knows the story of the thousands of business men, great and small, who, without reserve or recompense, in Washington and in every city and town in the land, gave their time and abilities to the cause of democracy. They seek neither honor nor credit for what they have done or may do. A large proportion of them, like other soldiers of the republic, are unknown, for as with the soldier in the field and the sailor with the fleet, it is their duty and their energies, earnings, fortunes and lives that are at the nation's disposal.

"The service our business men have rendered in preparation for our part on the firing line is already large, but we have now passed the first period of confusion and excitement incident to the early days following the declaration of war. We now have time to pause for a brief survey and to realize that we have only made a beginning.

"First of all may we well review the part the Chamber has played in this war. Back in the month of February, before we were drawn into the contest, your board of directors organized committees in 16 districts throughout the country. These committees, in the early days and ever since, have rendered a splendid and unselfish service. Later began the organization of committees working with the Food Administrator. Thousands represented in this Chamber are seeking day and night to find how they can work to the advantage of the Government. Special work has been undertaken by committees now being completed by the board to lead in effecting conservation in coal and supplies as well as foodstuffs. Committees have also been organized in some 25 districts to aid the Government in its shipbuilding plans. I venture to predict that when the record of these times is complete you will find satisfaction in the service rendered by the Council.

"Quick and sure success will only come as a result of the most thorough organization. We may congratulate ourselves on the excellent start made, but, gaining from our own experience and that of our Allies, we must perfect our organization of industry to a point never before equaled. It cannot be organization in form only. Mere machinery, no matter how pleasing to contemplate, is valueless unless it produces results to the limit of its capacity.

"We must be sure, therefore, that not only every business and professional man and every worker is bearing his part of the common burden, but that every last one of us, old and young, shall be fitted into a place in the shortest possible time and bear his or her part in the common effort. It is a battle of entire nations banded together in the cause of liberty against those who have set aside every ideal achieved by men in the struggle of centuries.

"In this striving for the perfection of organization business men must be in the front rank. The experience of their daily lives fits them especially for service in this direction, and, fortunately bound together as they now are in the largest and most far-reaching organization of business men in the world, this National Chamber of Commerce, they are ready for the task.

"You gentlemen who constitute the National Council of this body number nearly 1000. You are each selected by your organizations to provide a direct tie between your own communities and the headquarters of the National Chamber at Washington. Behind you are more than half a million business men, corporations and firms, bound together in the individual organizations you represent. You have at your disposal offices and equipment, machinery and capital. These forces are available for instant use in backing with all their power every step which our Government makes in advancing the war program.

"No similar machinery to equal it is available to any other nation involved in the war, and we are indeed negligent of our duty and responsibility if we do not utilize it to the utmost.

"The members of this Council, available at all times for immediate call, constitute the 'shock troops' of organized business in this country, and the opportunities presented to you for real service are without limit.

"How may we best use this machinery in the service of all our people and in the cause to which we are pledged to give all that is in us? It is to decide this question that we are gathered at Atlantic City, but our conclusions are valueless if action does not follow discussion and every member of this Council does not hold himself personally responsible for results.

"What is already done is well enough, but American business must now give to the world an example of

unselfish, unremitting, persistent labor, which will bring to all of us new satisfaction and inspirations.

"Real success in business is now to be reckoned only in terms of what we contribute, without thought of ourselves, to the preservation of the splendid ideals for which America stands and will now fight to the last drop of its blood.

"Business is not today a question of dividends or profits, to bring to ourselves and our families ease and luxury, but before everything else it becomes a matter of service of the nation to the great struggle ahead. Gentlemen of the Council, as we sit here in security and comfort and look out upon this beautiful, smiling ocean, do we realize that somewhere men are dying in its depths for us as the result of that policy expressed in the infamous sentence 'Sink without trace'? Do we realize that just the other side of it, in martyred Belgium, in brave France and elsewhere, men of every country and of every race are pouring out their blood that our children may continue to know what freedom means? Do we understand this?"

Following the address of Mr. Fahey, Joseph H. Defrees of Chicago, chairman of the Executive Committee of the National Council, told of the emergency action by the Board of Directors that resulted in calling the War Convention and outlining the plans carried out by the Board in its work of suggesting steps to advance the war. Speaking of the members of the Council he said: "Each one of us is asking how he may best bear his part in the service." And in answering this he asserted that the work before the convention offered an opportunity which may well challenge every member's ambition.

President Rhett, at this point, invited discussion of matters relating to co-operation on the food program, coal conservation, transportation economy, general commercial economy, and co-operation with the directors on referendum and emergency questions.

Councillors from various States during this debate told of the difficulties in their home communities as to the production and distribution of coal and items of food and other supplies. It was pointed out by some of the speakers that there can be no coal conservation without transportation facilities, and it was predicted that a serious handicap to industry was bound to materialize unless there is an increase in transportation facilities, although one representative from a Middle Western State said that upon investigation in his section that it had been found that the coal shortage in his district was due to mines working only half time and not to the fault of transportation lines.

During discussions of the food question the wider use of corn products were advocated, as well as the adoption of "meatless and wheatless" days. Several of the members spoke of the seeming waste of food by the hotels and restaurants of the East in the serving of individual portions, which in many cases were two or three times more than a person with a normal appetite could consume. A representative from a Central Western State thought that from what he had seen and heard on his trip East, that the people of the Middle West are giving more attention to the question of food conservation and of the raising of larger crops than is to be found in the East. As an illustration of the large crops raised he said that in some States in the Central West potatoes are being harvested and sold for thirty cents a bushel, but after going through the hands of the wholesaler they bring from $1.75 to $2 a bushel. This point was brought up so that the convention could work out a plan for taking care of the marketing of crops at harvest time in order to keep prices more nearly normal and encourage growers. The MANUFACTURERS RECORD has reported several communities and towns in the South which have organized committees from business bodies for the purpose of aiding the farmer in disposing of surplus crops. The MANUFACTURERS RECORD has also editorially for some months advocated the use of corn meal in place of wheat products as much as possible, also the adoption of "meatless and wheatless" meals and days, and has several times in the past months called attention to the waste of food by hotels and restaurants in serving too large portions.

It was also brought to the attention of the convention the amount of good that the 1,200,000 traveling men of the country could do toward the campaign of food conservation, especially with hotels, as they reach every town and hamlet in the country, and could spread the propaganda of food conservation to the remotest sections of the country. The daylight-saving plan was also mentioned as one way to aid the general scheme of conservation.

It was brought forcibly before the convention that what is most needed in the present campaign before the people of the country is education and publicity. It was said that the farmers were the class needed to be reached most of all. The farmers did not realize that the world war had affected them, but now, when the boys of the countryside are being called to war, the farmers are awaking to the conditions that confront this country, and it is bringing home to them their responsibility.

The preliminary meeting adjourned after all the suggestions of the board were voted upon and passed unanimously by the convention with a special vote of thanks to the members of the board and the directors for their excellent work and unselfish service.

Thrilling Call to Service Sounded by Speakers at Convention

Tuesday morning the convention proper opened with what was probably the largest representation of business ever assembled in this country to discuss problems never before encountered, problems of vital interest to the welfare of the nation. President Rhett called the meeting to order and introduced Bishop Thomas F. Gailor of Tennessee, who prayed for Divine guidance that the business men of the country be given the wisdom to lead the nation to victory.

President Rhett then outlined the reason for calling the War Convention of the Chamber of Commerce and other business organizations. He said that they were called together primarily in order that American business may have the opportunity of expressing its sentiment with reference to this war in which we are now engaged and what it proposes to do to bring the war to a successful conclusion. He called attention to the fact that the Chamber not only had delegates from its own 950 commercial organization members, representing over 400,000 individuals, firms and corporations, and its own individual and associated members, numbering over 6000, but that it had sent invitations to other commercial organizations of the country not members of the Chamber to be present. They were invited here to join in sending out a message from American business men that will let the world know that, no matter what the cost, no matter what the sacrifice, American business men propose to put every resource back of the Government in seeing that liberty and democracy and civilization shall not perish. "Some," he said, "questioned the patriotism of American business and the spirit of sacrifice necessary to win the war, but there has been nothing more inspiring than the response of business men. When we think of the efforts already put forth by them we begin to realize to what extent they have responded.

"We are gathered here also to find a way to help the Government and its Allies to win the war. We would be derelict in our duty to ourselves and our duty to our country if we did not consider all problems that confront this country. We shall sound no uncertain note. Can we who have lived in a country where liberty and democracy have been handed down and valued higher than life itself—can we permit German autocracy and militarism to stand as a threat and be a danger to the peace of the world and liberty be stifled? Men cry of peace, peace, but there can be no peace so long as this condition prevails, so long as any nation great and aggressive is taught that possession of power entitles it to give its will full sway."

Secretary of War Baker was introduced to the convention as the president of the Council of National Defense. He characterized the National Chamber as "one of the great armies of the United States," and compared business to the supporting lines of defense on the firing line. Secretary Baker said, in part:

"In the first place, I want to say that I am not here to praise business. To do so, it seems to me, would imply some sort of separation between business and the Government. That business has been active and patriotic and vigorous and effective merely means that it has been conscious of its task and of its opportunity, and so when I tell you some of the things that business has already done it is for the satisfaction that you will know that your duty has been done, as it has been done by labor and the military men of this country."

He told of the work of the advisory commission of the Council of National Defense. "Your associates in business," he said, and, asking permission to call "the names of the roll of honor," he named the members of the commission.

"There was a certain distrust on the part of business so far as the Government is concerned before the war," and Mr. Baker told how these seven members of the committee instantly summoned business to the aid of the Government. "Then there poured into Washington literally hundreds of thousands of offers from business men throughout the country. Many business men came personally to Washington, not to seek personal benefit or advantage, but to give something to the Government.

"The hearts of our people," he continued, "were pulsing with the desire for service, and I began to feel that democracy which the President wanted made safe for the world was safe in America at least."

He spoke of how every workshop and factory in the United States was doing something to assist the country. "In every one of them," he declared, "there is a bias in favor of the Government's needs, contrasting that condition now with what had been going on in the way of personal profit-making before the war. You business men know this, for almost every one of you have come into contact with that condition in your own affairs."

The Secretary then told of how the armies of the United States have been raised and are being raised, "without beating of drums or the harsh mandate of military power, taking the measure of the youth of the country."

"They are as proud as peacocks, every one of those boys," he declared, "and the best military observers of Europe say that these boys are the best raw material they ever saw, and this thing could not have been done without your co-operation, the co-operation of the Chamber of Commerce and other trade bodies of the United States."

Mr. Baker spoke of the wonderful co-operation of business in the building of the cantonments in which the various army and navy forces are to be trained, the supplying of raw material for building as well as for transportation. He spoke of the expansion of the manufacturing facilities of the country in supplying food and clothing.

"There were some anxious moments in Washington as to the attitude of business toward the Government on the difficult task of price-fixing, but American business men came to the conclusion that it isn't going to be popular in this country to make money while other men lay down their lives. It was the leadership of American business which smoothed away these difficulties."

Production the Supreme Need More Than Fixed Prices

George M. Reynolds, president of the Continental and Commercial National Bank, Chicago, said in part:

"War is a business, the most titanic of any, for the furnishing of equipment and clothing and the sustenance for a large army is a huge undertaking, beside which even the largest private business sinks into insignificance. Therefore, to have business do what it can to help win the war simply means that private business is assisting in that which is public. Now that we are engaged in such an epoch-making contest, self-preservation compels us to see that the public prospers in order that we may preserve and maintain our private business.

"Bankers and other business men face prodigious

problems that may multiply as the war proceeds. That they will cope with these problems and solve them with the Government's aid is not to be doubted by any who know their patriotism, courage and resourcefulness. All they ask is co-operation of Federal and State authorities that will allow such a degree of latitude as will avoid crippling industry.

"A full measure of permanent co-operation between the Government and business deserves a special appeal, for if there is lack of a sane working basis, prejudice and discrimination in legislation and regulation upon the part of the one will result in uneasiness and unstableness of purpose upon the part of the other.

"The Government urgently needs the help it will receive from an undiminished effort to reach maximum production in all industries, for every pound of material that can be turned out by all the mines, mills and factories can be used, and still there is fear that there will not be enough to fill all needs. Even now there is unmistakable signs of hesitancy. Business men are afraid to place orders because they do not know with sufficient certainty what the policy of the Government upon many subjects vital to the safe conduct of business will be, or when these policies will be announced.

"Stability and fairness in laws and regulations and fewer legislative changes will enable business to get its bearings and put its entire strength back of the President. There is positively no occasion for worry if the policies to be adopted and carried out are wise and definite and made known without too much delay.

"The nation (and business is part of the nation) that deceives itself, lulls itself into a false belief that it can withstand the shock of dire threats of all manner of regulation and of conscription of property and income is lost in any great undertaking. In the past too much prejudice has been engendered against big business. For the sake of harmony and efficiency no more attacks should be aimed at business merely on account of its size. We must have big business, and the bigger the better in this war crisis, or we should be at the mercy of the enemy, for stripped of these resources of big business, it would be utterly impossible to get deliveries of copper, iron, steel and lumber in sufficient quantities.

"Business men have worked unselfishly to forward the common cause in previous wars, but not in the organized manner that obtains now. The way the railroads are pooling and co-ordinating their efforts affords a striking illustration of what is being accomplished.

"Undeniably the excellent results pointed out by Mr. Harrison of the Southern Railway justify the attitude of the Federal officials in not enforcing the provisions of the Sherman anti-trust law and demonstrating the correctness of the claim long ago made by the railroads, namely, that if allowed to make fair pooling arrangements among themselves they could give the country greatly improved service.

"For many years I have tried to study without bias the rate question as relating to transportation costs. All along I have wanted to see both shippers and railroad operators prosper on the theory that inadequate earnings of one meant receding profits for the other, and that we must all prosper or submit to depression together. If too much of the shippers' profits were extracted by the carriers, business would be discouraged. It appears equally true that if the revenue of the railroads were held down to a mere pittance, we should all suffer inconvenience of blockade and delays due to the inability to continue repairs and improvements and maintain rolling stock.

"Until recently the various commissions and Governmental bodies have been opposed to allowing the railroads a margin for expansion and repairs and a surplus for lean years. One of the ills with which we are now afflicted grew out of that fact. Laws passed during the last 15 years affecting railroads have been restrictive rather than constructive. I do not want to convey the impression that I am leaning towards Government ownership. That would make bad matters worse.

"Now is the time for us to follow economic laws and common-sense principles as our guide. The furnaces and mines cannot deliver the enormous tonnages of iron and steel except by considerably enlarging their plants, thereby taking the chances of developing a capacity far beyond that warranted by ordinary conditions of trade and of being caught with heavy tonnages on hand, made ready for delivery on a high cost basis, when the possible slack comes with the cessation of war demands. The uncertainties of war are such that no man can foresee the day of reckoning.

"Wage increase and production costs and prices irresistibly rise. During the ancient conflicts at arms, speculation and inflation occurred, food and merchandise grew to be scarce, prices rose alarmingly, and there was much complaint. These things have happened recently, and wise treatment of the problems they present is vital to the success of the Allies. Business men who by reason of years of experience and daily study have intimate knowledge of the matters involved should have something to say about the method of settling them.

"Up to the present, due to intensified effort, with all our men employed at the highest wages of which we have any record, we have added to our own output, but this is not true of other leading export countries. Aggregate production the world over is diminished, and everybody scrambles for whatever is on the market. The buyer virtually names the price.

"I agree with those who contend that prices may go to an unbearable level, to a figure that would place the necessities of life, or of business, where some power must step in and say that the public welfare is endangered. It is conceivable that a condition might be reached that would crush the power of the nation through inability to obtain food to nourish the laborer and his family and materials to keep the wheels of commerce turning. Heretofore the approach of such a calamity has always developed its own preventive, through either enlarged production or decreased consumption.

"We are not planning drastic or ruinous price reduction on what the farmer produces if the action relative to wheat is a criterion. By stabilizing and guaranteeing values based upon conditions, we are trying to stimulate better crops. This follows the law of supply and demand, and in all our price-fixing we should not deviate far from that law.

"Failure to give due consideration to all angles of price-fixation will work untold mischief. We are on a high-price plane. This is true of wages, rents, products of the farm and practically every kind of merchandise. Stocks have accumulated upon this basis. If we compel the maker of hardware or shoes to mark down his goods to pre-war figures, in fairness he will reply that such action will force him into bankruptcy unless he can reduce wages and all other items of cost. Unless there is to be disorganization and demoralization, we must recede from the present level gradually; any other way would be unsound and would produce chaos where order is necessary. Let business men seriously and patriotically co-operate to create a sentiment favoring a wise course; one that will prevent a deadlock due to extortion, and at the same time insure reasonable profits on the basis of conditions and the risks assumed. You cannot cut a foot from a yardstick and still have three feet left, neither can you cut too deep into the source of profits and still have excess profits left for the assessment of taxes.

"Closely related to this price regulation is the excess profits tax. There has been so much discussion of the scheme of taxation which we are inaugurating, and so much delay in definitely fixing the rate, as to hold a very considerable volume of business in abeyance. Admitting that there is reasonable ground for a big tax which will absorb some of the excess profits and prevent overexpansion, at the same time if we overstep we shall take the heart out of business and we shall defeat the end in view. Let Congress proceed cautiously with every additional plan of taxation during this trying period and make haste to amend any measures that may threaten stagnation.

"Recent news items from Washington stated that the radicals urged excessively high taxes on wealth and big business to relieve the middle classes and little business. Do they not know that if the wealthy and big business are oppressed and harrassed through excessive taxes and price regulation that are beyond all reason, and depression is brought upon us, that the poor and middle class and little business will be the real sufferers? It will be like a panic or fire. The strong are able to take care of themselves, but the weak go down in the crush.

"We are not fighting for ourselves and our Allies alone, but for future generations as well, and in fairness the burden of financing the war should be divided. If the payment of the extraordinary amounts raised to carry on the struggle be spread over a term of 25 years or even 50 years, no injustice will have been done those who may be required to retire the last of the bonds. Precedents approve this course.

"There is one detail that is fraught with too much danger to be overlooked. The plan to be followed in collecting revenue for the Government should cause as little disturbance as possible in the financial world, and therefore it seems to me that quarterly payments of taxes should be arranged for. Many industries are using not only all of their capital, but all of their credit in the conduct of their business, and to be called upon to pay a large sum of money out of earnings that are still in the process of collection will work a hardship upon business men and will also strain the resources of the banks.

"We cannot deny that labor deserves very careful treatment if we are to get the best results in all directions, and business men can well afford to devote much time and effort to improving the relations of employer and employe. A clearer understanding of the problems of both would be most beneficial. We must all surrender some of our pre-conceived notions of our individual rights touching the services we owe the community when threatened by a common and powerful adversary.

"There is an urgent need for speeding up. We are constantly trying to induce the farmer to cultivate more acres with a thoroughness that will enhance the yield of his crops; we plead with the owners of coal, iron and copper mines, steel mills and smelters and the factories for a larger output in order that we may help win the war.

"The natural result of the Government financing through the sale of bonds to the people will be to transfer money from the West and concentrate it in the East. This can largely be overcome if Government orders are well distributed throughout different sections of the country, especially as Government buying is more of a dominating factor in business now than ever before."

In closing, Mr. Reynolds said:

"All who love liberty and the institutions of democracy, all who cherish the privilege of rearing their children under the untarnished flag and of bequeathing to them and their children the exalted rights guaranteed by the Constitution; all these must feel their hearts beating with a quickened patriotism in this hour of trial. Already they have been aroused to the point of resentment. They stand anxious to make every sacrifice for the perpetuation of those principles for which our ancestors unsheathed the sword, and through characteristic energy, ability, genius and love of country, the business men of the nation will do their part nobly in carrying the Stars and Stripes to a new victory for democracy and the peace of the world."

The Germany That It Has Become America's Duty to Vigorously Fight

In the course of a stirring address on the duty of the American business man in this war, Secretary Franklin K. Lane, Department of the Interior, said:

We have determined on war. That is settled. There is no appeal from that determination. The people, under the law, have made it. To accept the conclusion of the Congress and the President makes this a republic. The American people, then, have determined to resist the aggressions of Germany—a Germany that broke her word with us; a Germany that sought to start a revolution inside our borders; a Germany that sought to bring enemies upon us from the outside while we were at peace with her; a Germany that first borrowed money in this country and then grew angry because her enemies followed her lead; a Germany that grew angrier still because we sold munitions to her

enemies, following an indisputable legal right which she herself frequently exercised; a Germany that, in violation of her own word, sank the ships which we sent to feed the starving Belgians; a Germany that pretended to fear a Russia that she knew did not have one-half enough rifles to arm her troops nor enough munitions to supply them for a month, nor enough railroads to carry the munitions they had; a Germany whose national policy was to teach each nation to distrust every other nation, whose military policy was to spread terror, whose naval policy was to prey upon neutrals; a Germany who believed that all other peoples must live only with her consent and who would bring all peoples into a constant state of subservience and fear. We are against this Germany because we cannot live with her. She is our enemy because she is the world's enemy. We fight her because we cannot be friendly with her. She does not know what friendship is, for she asks that her friends dishonor themselves. She is an organized ambition that is hostile to the world's peace. If there is a better Germany inside of her and she will show it, she can again be restored to the family of nations as a friend. But we have determined that we will fight the Germany that is revealed, the spying, intriguing, terrorizing Germany, until a better Germany honestly says: "We want to live upon the same conditions as our fellows. We realize that the day of another Roman empire is passed. We are conscious that no man can play Napoleon now. We wish to play the nineteenth century game under nineteenth century rules. We believe that with our genius for organization and our intense absorption in our work we can win our way to a place in the sun without spies, without intrigues and without terror."

It is now 1900 years since Caesar defeated the Germans in France. When they came asking terms he said to them: "Go back whence you came, repair the damage you have done, and give hostages to keep peace for the future." This war will end when Germany knows that she must give hostages to keep peace in the future. It was the ancient and barbaric custom to take princes and high men as hostages, and this custom Germany followed when she entered Belgium. But the world does not ask such hostages today. It is the problem of world statesmanship to discover what kind of hostage Germany can give when she has been convinced that her dream of world overmastery cannot come true. Under civilization we all give hostages to each other. That is the basis on which we live. We place in the other man's hands something sacred, which we forfeit if we break the common law. This is no humiliation to us. It is the price we pay for life among our fellows. Germany must do the same. And we must be willing to do the same. The people of Germany have been taught to fear. The world should teach them that they have no reason for fear, and give hostages against fear. We fear Germany. The world has had horrible reason to fear her. Our victory will come when Germany removes the reason for that fear.

We have lived too long under civilized conditions, traveling among each other, trading with each other, seeking the friendship of each other, to allow this earth to revert to those days when each nation found its highest function in preying upon the other. This I take to be the meaning of the phrase that "this is a war for civilization," "a war for peace." We wish no nation to be subject, abject or in prison. Germany can live on common terms with all other nations when Germany gives over the hope of mastering the world with high explosives and low intrigue and rises to the conception of a Germany that has the will to compel the world's envy, admiration and respect because of what she thinks and what she makes.

And, having determined our course, we are making full steam ahead. We are bent upon making war with American vigor. If anyone doubts that, let him look at the record of Congress, which has come in for so much of derision and reproach. I presume to say that no other parliamentary body in so short a time ever passed so great a volume of well-considered and prophetic legislation as has our present Congress in the past five months. We have supplied money for our friends, raised an army of a million and a quarter, inaugurated a new industry—that of making aeroplanes; revived a dead industry—that of building ships; placed powers over exports and prices, over industries and resources, in the hands of the President that will give him the weapons he needs—made laws to punish domestic enemies, and courageously placed the burden of taxation upon those who can best bear up under it. This is a record that no nation has excelled. It is a record that shows purpose, an unflinching purpose.

We of America, it is conceded, know how to make money, and we will prove that we know how to make war, whole-hearted, resolute war; war that means organization, machinery, science; war that means men by the million and money by the billion; war that means heart-breakings, ruined hopes, a little glory perhaps, a certain self-respect, a world that man can grow in.

We shall make war in earnest, for we know that if Germany wins the world will turn aside from the system of law and liberty which we know and exalt that military caste and system which is the historic enemy of personal liberty. We make war in France that we may not be compelled to do battle here. Let Germany have Canada or Mexico, or even Cuba, and we would have to go to our daily work like the Pilgrim Fathers—with our guns in our hands. It may be hard that the clerk must be taken from his desk, the lawyer from his case, the fireman from his engine, the farmer from his plow, the mechanic from his lathe—but if they did not go now, they and their sons, other clerks and lawyers and farmers and mechanics would live one long dread day of fear. For Germany to win as against the world would be proof of the superlative greatness of that scheme of things which is called Prussianism, organized, well directed, physical force. Her prestige would ruin the hope of democracy in Germany itself, put Europe under her dominion and cause the world to reject the Declaration of Independence which we gave, and which is the political and social gospel of the modern world.

This is in truth most distinctly our war, for we claim proudly that we gave the impulse to Europe which turned its face toward democracy, and for that reason, in fighting with France, England, Italy and Russia, we fight for those who follow in the way we led, true children of the American conception of Government as a servant, not a master.

* * * * * * * * *

You have asked me to say a word as to your duty as business men. Let us change that word from "duty" to "opportunity." Beneath us, as we stand here, rolls the ocean, on whose waters our boys are being borne across. Some have gone, more are to go. Some will come back. If any American, business man, farmer or official, wishes to know his duty, let him ask one of those boys. Let him carry before his eye that stalwart figure in khaki, this square-jawed hero of a new crusade. An appeal to him will answer all doubts as to what any of us should do. We have come upon a new day and a new philosophy. We are to judge men henceforward not by what they have, but by what they give.

Dr. Newell Dwight Hillis Tells of What He Saw of German Atrocities

The Rev. Newell Dwight Hillis, pastor of the Plymouth Church, Brooklyn, who has recently returned from a two months' trip to the front in France and Belgium, addressed the convention on the horrors of the German atrocities that France and Belgium have endured. Dr. Hillis said, in part:

"Every American who has passed through France and the edge of Belgium this year has returned home a permanently saddened man. German cruelty and French agony have cut a bloody gash in the heart, and there is no Dakin solution that can heal the wound. Here upon this pulpit rests a reproduction of an iron coin given as a token to each German soldier. At the top is a German portrait of Deity, and underneath are these words: 'The good old German God.' To encourage the German soldier to cruelty and atrocity against Belgians and French, the Deity holds a weapon in his right hand, and to dull his conscience and steel his heart to murder the token holds these words: 'Smite your enemy dead. The day of judgment will not ask you for reasons.'

"For three years German-Americans have protested that the stories of German atrocities were to be disbelieved as English inventions, Belgian lies and French hypocracies; but that day has gone by forever. When the representatives of the nations assemble for the final settlement there will be laid before the representatives of Germany affidavits and photographs, with other legal proofs that make the German atrocities to be far better established than the scalpings of the Sioux Indians on the Western frontiers, the murders in the Black Hole of Calcutta or the crimes of the Spanish Inquisition.

"No one understands the German people as well as the Kaiser. Our President, in a spirit of magnanimity, patience and good-will, distinguished between the Kaiser and the Prussian Government, and over against them put the German people. But Germany's Chambers of Commerce, Hamburg's Board of Trade and certain popular assemblies would have none of this, and in the fury of their anger passed resolutions, saying: 'What our Government is we are. Their acts are our acts. Their deeds and military plans are our plans.' Knowing his people through and through, the Kaiser called his soldiers before him and gave them this charge: 'Make yourselves more frightful than the Huns under Attila. See that for a thousand years no enemy mentions the very name of "Germany" without shuddering.'

"Why do the German people say they feel so terribly because the authors of the world call them 'Huns' and 'barbarians?' Who named them 'Huns?' Their Kaiser. Who christened them barbarians? Their Kaiser.

"This war began in a conference in the Potsdam palace in 1892. The pamphlet distributed by the Kaiser begins with these words: 'The Pan-German Empire: From Hamburg on the North Sea to the Persian Gulf. Our immediate goal: 250,000,000 of people. Our ultimate goal: The Germanization of all the world.' The explanation of the Kaiser contains these words: 'From childhood I have been under the influence of five men—Alexander, Julius Caesar, Theodoric II, Frederick the Great, Napoleon. Each of these men dreamed a dream of world empire—they failed. I am dreaming a dream of the German world empire—and my mailed fist shall succeed.' He printed one map headed 'The Roman Empire,' with all the great States captured and their capitals—Athens, Ephesus, Jerusalem, Alexandria, Carthage—reduced to county-seat towns, paying tribute to Rome.

"But the Kaiser prints side by side with that map another world map, with Berlin the capital; and by 1915 St. Petersburg, Paris and London were to be county-seat towns, subdued provinces of Germany—and Washington and Ottawa were to follow with the word 'Germania' stamped on the United States and Canada. That is why the Kaiser told Mr. Gerard: 'After this war I shall not stand any nonsense from the United States.' The President heard, but he did not tremble. The originator of this world war was the Kaiser; Treitschke was its historian; Nietzsche its philosopher; Von Bissing and Von Hindenburg its executives.

"Consider the reflex influence of Germany's philosophy of militarism upon her statesmen and diplomats. With the standards of civilized States in mind, recall the intellectual and moral atrocities of the Kaiser and Bethmann-Hollweg. In 1911 the German Foreign Office reaffirmed the treaty with England and France, to observe the neutrality of Belgium in the event of war with France. On July 31, 1914, the Kaiser's Prime Minister telegraphed Lord Grey that Germany would, of course, keep her treaty obligations as to Belgium. The French and English governments now have full knowledge of the conference between the Austrian Emperor and the Kaiser at the Potsdam palace on July 5, with the agreement to launch the war August 1. When the war proclamation was delayed until August 3 the Kaiser's representative used this sentence in his speech in the Reichstag: 'We must not postpone the agreement entered into with Austria at the conference on July 5.'

"For more than three weeks, therefore, before war was declared Germany and Austria were preparing cannon, guns, equipment, and as soon as the last buckle was on the harness, and the last rifle in the hands of the soldiers, on August 3 war was declared. Then Bethmann-Hollweg sent out his statement to the world as to why the Kaiser and himself counted an international treaty a 'scrap of paper.'

"That is why our President, answering the Pope, said that no treaty signed by the Kaiser and his Government means anything. And here is Bernstorff, Ger-

man Ambassador in Washington, who forgets that cannibals and savages, even, consider that eating salt in another Indian's tent or white man's house is a pledge of truth—while this Judas Ambassador dines at the White House at night and goes on plotting seditions in Mexico, blowing up our munition factories and the killing of our people. Bernstorff smiled and smiled, as he kept one hand above the table and in the other hand under the table whetted a dagger on his boots with which to stab his host in the back.

"Does the sunlight in photography tell lies? Are the German soldiers liars in writing to brothers at home or keeping the record of events in their diaries, thus leaving on their bodies the indubitable evidence of the highest order of truth? Standing in the village of Herimenil a boy of 16 and his mother showed me 12 bullet marks against the stone wall where a young mother, aged 23, with a babe on her breast, with her young sister and sister-in-law of 16 and 17, were shot by 12 German soldiers—four brave and heroic Germans shooting at each girl.

"Dr. Hillis added that the 'cold catalogue of German atrocities makes the most sickening pages in history. These atrocities were not committed in a mood of drunkenness, nor in an hour of anger, but were organized by so-called German "efficiency." It is not simply that they looted factories, carried away machinery, robbed houses, bombed every farmhouse and granary, left no plough or reaper, chopped down every fruit tree and poisoned all wells! The Germans slaughtered old men and matrons, mutilated captives in ways that can only be spoken of by men in whispers, violated little girls until they were dead; finding a calfskin nailed to a barn door to be dried, they nailed a baby beside it and wrote beneath the word "zwei": bombed and looted hospitals, Red Cross buildings, violated the white flag—while the worst atrocities cannot even be named.'

"'The Kaiser, Nietzsche, Von Bethmann-Hollweg, Von Bissing and Plauss think and teach the theory of iron force, the right of big Germany to loot little Belgium, the right of the lion over the lamb, and that no questions will be asked by a just God on the last day of judgment.'

"The glory of every great city and country is its scholars, with their love of truth and their stainless lives. We have had our civilization at the hands of men who loved the truth supremely, pursued the truth eternally, and cherished the truth above their fear of hell or hope of heaven. The world has its liberty, its science and its law at the hands of the heroes who preferred the truth above life. Concerning the patriots, the reformers and the statesmen, we can only say they were stoned, they were sawn asunder, they were crucified in Jerusalem, poisoned in Athens, tortured in Ephesus, exiled in Florence, burned at the stake in Oxford, assassinated in Washington. But the iron autocracy and militarism of Germany debauched her university men.

"Here in my hand is an address to the civilized world, signed by ninety-three German professors. They all receive their salaries from State endowments. Any hour the Kaiser or Bethmann-Hollweg can cut off their income. When the indignation of the civilized world flamed out against Germany in the winter of 1915, the German Government asked these professors to sign a document, and these men had been so degraded by the German philosophy of militarism and autocracy that they obeyed—losing their souls to save their salary. And consider what they signed!

"These ninety-three professors signed a statement, saying, 'It is not true that we wronged Belgium!'"

Use of Inland Navigable Water Ways an Economic Necessity

Walter Parker, assistant to Secretary Redfield of the United States Department of Commerce, in part said:

"Business America must augment its transportation system and reduce that system to a dependable, convenient and economic basis, if domestic markets are to be kept in good order and if the gate to foreign markets during the period of keen competition after the war is to be kept open.

"This means that the inland navigable waterways of the United States must be used as an adjunct to the railroads, and in co-ordination with the railroads, and that a system of transportation must be developed under which transportation lines of least natural resistance and cost of operation, in relation to the service required, will function without friction and without unnecessary restraint.

"Otherwise railroad and terminal congestion, which has long been serious, will become more acute, and the trade-encouraging effect of reliable and economic transportation may be denied the commerce generators of this country during a long time to come.

"America's strongest competitors in Europe not only have not permitted their waterways to fall into disuse, but even now, in the midst of capital and credit-draining war, are investing huge sums in extending their inland waterway systems, in order, first, that their troops and supplies may the more easily and quickly be moved, and second, that after the war their commerce may be moved to and from shipside at the lowest possible cost.

"Incidentally, those same countries are learning lessons of war economy and efficiency which will aid them in their fight for foreign markets later on.

"Today the normal volume of commerce requiring movement in the United States is greater than is the provision for moving it.

"In other words, the day of railroad monopoly of transportation is now forced to an end, just as the day of boat monopoly was forced to an end some years ago.

"The next economic step is a readjustment of the transportation system so that the railroads and the waterways, in co-ordination, may adequately serve the commerce of the country.

"The Federal Government realizes the necessity for such a readjustment as promptly as possible. The National Council of Defense has named a committee on inland waterways and has placed the chief of the army engineers at its head. That committee is vigorously promoting the use of the waterways as a means of relieving the war strain on the railroads.

"So it would seem that the next forced step here would be a readjustment that will give the shipper an opportunity to use either water or rail, as occasion might require, where both are available.

"Meanwhile, the ports are building river-rail-ocean terminal and warehouse facilities. This is notably true of New Orleans. And the river towns are building or preparing to build river-rail terminal and waterside storage facilities. This is particularly true of the cities of the valleys of the Mississippi, the Ohio, the Missouri, the Warrior and other rivers.

"The State of New York is preparing to revive inland transportation in a large way. In every navigable water-served valley in the country the people are now thinking about inland water transportation in a constructive way.

"Now comes the Shipping Board with its big plan to rehabilitate the American merchant marine within a period of a year or two. Those ships, after the war, will compete with all other ships in the world. There is no protection for them beyond our three-mile coast line. If it should cost us an appreciable percentage more to move our commerce to and from the interior to the side of these ships than it costs the Rhino merchants, say, to serve their own ships, our ships and our generators of commerce will be unable to compete. The use of boats served by efficient and economic facilities and equipment and enjoying the co-operation of all other common carriers in the interior, will permit our generators of commerce to operate to and from American shipside in easy competition with their best equipped competitors abroad. For this reason, if for no other, the navigable streams of the country must be used in the future.

"But there is another and most important reason. The internal development of the country requires and is now for the first time about to receive scientific thought and treatment. A halt must be called upon waste of every character. It would be suicide to longer permit the average housewife to throw into the garbage can every day enough food values to feed a family. Similarly, it would be suicide to longer permit the enormous waste of soil, of water, of power, of economic transportation that is constantly taking place before our eyes.

"And so, on August 3, this year, Congress finally adopted what is known as the River Regulation amendment to the Rivers and Harbors bill, providing for the creation of a cohesive, constructive and continuing national policy of developing and using the now wasted forces of nature for the promotion of agriculture, soil conservation, forestry and transportation. Under this amendment all of the forces of Government which have to do with the internal development of the country will be brought into intelligent and effective co-ordination. New economies will be brought into play. New commerce will be generated upon the basis of maximum production per unit of labor and cost. In all of which a mighty factor must be economic transportation. Otherwise, the advantages so gained might be offset by high cost of movement to market. And in the years to come that nation which develops the greatest enterprise in applying the science of economy to its business—consequently to its transportation—will succeed best.

"The amendment I refer to is comprehensive. It even provides for action by the Federal Government looking to full co-operation between the railroads and the boat lines and for the promotion of economic river-rail terminal and warehouse facilities.

"I commend it to your reading and study as one of the most constructive pieces of legislation yet placed among our statutes.

"That the use of boats as an adjunct to the railroads has become an economic necessity is becoming more apparent every day. That the same economic necessity is rapidly removing the handicaps on boat traffic on the inland waterways of the country is fully apparent to all informed students of current drift.

"The business men of the country can help in hastening the return of the boat as an important factor in economic transportation."

Efforts to Bring Order Out of Chaos in Business World.

Waddill Catchings, chairman of the Chamber's committee on co-operation with the Council of National Defense, who is also chairman of the committee on program, said that the committee on co-operation had been in intimate touch in Washington the past few months with those who are making the Government's war purchases. He pointed out that when the resolutions committee makes its report the discussion would be of great value in enabling the convention to act on the report.

"The Government, we are informed, intends to spend $19,000,000,000 for itself and its Allies during the next year," Mr. Catchings said. "When we consider that the entire gross turnover of the United States Steel Corporation and its subsidiaries is $853,000,000 each year, it will be seen that the Government will place upon business a demand twenty times as great as the entire annual turnover of all those great corporations."

Mr. Catchings pointed out that as the result of the competitive bidding since the war began between the Government and private industry high prices have been produced and that there has been much discontent. Taking up the work of the War Industries Board, he said there is a question whether this board can go beyond the purposes for which it was intended and meet the industrial problems arising from the Government's purchases.

"Our committee advocates the creation of a war board similar to the Ministry of Munition in England," Mr. Catchings said.

He said that the civilian advisory commission to the Council of National Defense should be actually in the service of the Government with the Government officials, and not merely advisers; that they should be doing the actual purchasing for the Government, determining prices and controlling priority as well as distribution.

"Chaos exists in business today," Mr. Catchings said, "and order must be brought out of this chaos if we are to win the war. The Price Control Committee—Wall Street man, farmer, distributor and merchant—is unanimously of this opinion."

President Rhett then explained that the committee on co-operation with the Council of National Defense is probably the most important committee of the Cham-

ber, and said that the statements made by Mr. Catchings represented the result of the daily experience of the committee sitting in Washington.

E. P. Albrecht of Philadelphia said he would later offer a resolution which would place the Chamber on record as urging the Federal Government to fix the price of labor "at the same time the price is fixed upon the commodity into which such labor enters."

Lazard Kahn of Hamilton, O., proposed a committee of from 50 to 300 to attempt to reconcile the needs of private industry and the Government.

Mr. Legg of North Carolina endorsed the proposal of Mr. Kahn of Hamilton, O., for the creation of a big committee of the Chamber to work out the difficulties described by Mr. Catchings.

Full Program of Convention.

The convention program, which occupies Tuesday, Wednesday and Thursday, is as follows:

TUESDAY, SEPTEMBER 18, 1917.

First Session, 10.30 A. M.

1. Organization of the Convention.
   (a) Adoption of rules for the conduct of the Convention.
   (b) Appointment of the Committee on Credentials.
   (c) Appointment of the Committee on Resolutions.
2. Introduction by the President of the Chamber, R. Goodwyn Rhett.
3. Address by the Secretary of War, Hon. Newton D. Baker.
4. Address by George M. Reynolds, President the Continental and Commercial National Bank, Chicago.

Second Session, 3 P. M.

WHAT AMERICAN BUSINESS MAY DO TO GIVE FURTHER AID IN WINNING THE WAR.

1. Address by the Secretary of the Interior, Hon. Franklin K. Lane.
2. Address by the Chairman of the War Industries Board, Hon. Frank A. Scott.
3. Discussion opened by Waddill Catchings, Chairman of the Committee of the National Chamber on Co-operation with the Council of National Defense.

SUBJECTS OF DISCUSSION.

A. Organization of the Governments' buying.
B. Control of prices on raw materials and finished products.
C. How the business of the country may improve its present organizations better to serve the war needs of the nation.
D. Collateral subjects involved in the production of military supplies and the reaction of Government demands on the needs of the people.

Third Session, 9 P. M.

1. Address by the Russian Ambassador to the United States, Hon. Boris Bakhmeteff.
2. Address by Dr. Newell Dwight Hillis of Brooklyn.

WEDNESDAY, SEPTEMBER 19, 1917.

First Session, 10 A. M.

HOW AMERICAN BUSINESS CAN HELP PROMOTE THE DEVELOPMENT OF TRANSPORTATION ON LAND AND SEA AS A PRIMARY FACTOR IN WINNING THE WAR.

1. Railroad Transportation—Judge Robert S. Lovett of the War Emergency Board.
2. Ocean Transportation—Hon. Raymond B. Stevens, United States Shipping Board.
3. Priority and Distribution—A. C. Bedford of New York, President of the Standard Oil Co.
4. Business and Transportation—Harry A. Wheeler of Chicago.
5. Discussion opened by Charles Piez, President Link-Belt Co., Chicago, Ill. Walter Parker, Representative of the Department of Commerce on Inland Water Transportation.

SUBJECTS OF DISCUSSION.

(a) Priority of transportation and distribution of materials and finished products for the Government, the Allies and the public at large.
(b) What steps business may take by planning bulk shipments and more efficient storage to secure greater use of existing railroad facilities.
(c) The increased use of our inland waterways and constwise transportation.
(d) What the business men of the country may do to accelerate the shipbuilding program.

Second Session, 3 P. M.

FUNCTIONS OF THE COMMERCIAL ORGANIZATIONS IN WAR.

Three group meetings for the special consideration of this subject will be held as follows:

Group A—Meeting of representatives of local commercial organizations to exchange experiences and consider what further steps may be advisable.

Chairman—John H. Fahey of Boston.

Leaders—Major Bascom Little, former President of the Cleveland Chamber of Commerce; Edward A. Filene of Boston; Mr. A. W. Shaw, Chairman Commercial Economy Board of the Council of National Defense; James A. McKibben, President National Association of Commercial Organization Secretaries.

SUBJECTS OF DISCUSSION.

(a) Fuel conservation.
(b) Better use of freight cars and terminal facilities.
(c) Utilization of motor trucks and trolleys.
(d) Co-operation on the food problem.
(e) Economies in the use of materials, power and delivery service.
(f) Saving on storage space.
(g) Further development of the International Chamber of Commerce and the participation of American business organizations.

Group B.—Meeting of manufacturers and representatives of trade organizations to consider how they may organize better to serve the Government and develop their output.

Chairman—Mr. William Butterworth, President John Deere Plow Co., Moline, Ill.

Leaders—Walter S. Gifford, Director Council of National Defense; George D. McIlvaine, Secretary National Trade Organization Secretaries; C. C. Brantingham, President Emerson-Brantingham Co., Rockford, Ill.; S. M. Hastings, President Illinois Manufacturers' Association, Chicago; S. A. Osborne, Vice-President of the Westinghouse Manufacturing Co.

Subjects of Discussion.

(a) Organization of committees representing all producers in the industry, including those not members of associations.
(b) To what extent should such committees act beyond affording a point of contact between the Government and the industry?
(c) Organization of standing committees to co-operate with the National Chamber on special war problems.
(d) The determination of prices under the abnormal conditions caused by the war and the relation of minimum prices to increased production.
(e) Where prices are determined by the Government, what hearing should be afforded business affected?
(f) Relation of prices fixed by the Government to stocks of raw materials and finished products and to contracts.
(g) Priority regarding private contracts.
(h) Organization of Government buying.

Group C.—Conference on Retail Trade Conditions, Prices and Distribution.

Chairman—A. L. Filene of William Filene's Sons Co., Boston.

Leaders—Wallace D. Simmons of the Commercial Economy Board, Council of National Defense; Bentley P. Neff of Duluth; H. S. Potter, Cambridge, Mass.

Subjects of Discussion.

(a) Readjustment to war conditions present and anticipated.
(b) The man problem.
(c) The merchandise problem.
(d) Economies in delivery, light, heat, paper and other materials.

Third Session, 9 P. M.

1. Address—Lord Northcliffe, Chairman British War Mission.
2. Address—Hon. Herbert C. Hoover, United States Food Administrator.

THURSDAY, SEPTEMBER 20, 1917.

10 A. M.—Group Meetings for the Discussion of Ways and Means for Business to Adjust Itself During and After the War.

Group A.—Banking and Finance Under War Conditions.

Chairman—P. W. Goebel, President the American Bankers' Association.

Leaders and Subjects:

(a) Trade Acceptances:
Lewis E. Pierson, Chairman of the Board, Irving National Bank, New York.
(b) Commercial Credit During and After the War.
(c) Taxation and Bond Issues.
Frank O. Watts, President Third National Bank, St. Louis.
Thomas S. Adams, Professor of Economics, Yale University.

Group B.—Foreign Trade in Winning the War.

Chairman—Alba B. Johnson, President Baldwin Locomotive Works.

10 A. M.
1. Export Control.
E. H. Huxley, of the United States Rubber Co.
2. Pan-American Trade and the War.
Daniel Warren, Vice-President American Trading Co., New York.
3. Helping to Win the War Through Foreign Trade.
James A. Farrell, President United States Steel Co.

3 P. M.
1. Co-operation in Foreign Trade.
John D. Ryan, President Anaconda Copper Co., New York City.
2. European Post-War Trade.
George E. Roberts, Assistant to the President National City Bank, New York City.
3. Stabilization of Exchange during the War.
Fred I. Kent, Vice-President Bankers' Trust Co., New York City.
John Clausen, Vice-President Crocker National Bank, San Francisco.
4. Trade and Financial Co-operation with our Allies.
S. R. Bertron, Bertron, Griscom & Co., New York City.
C. H. Boynton, President Russian-American Chamber of Commerce, New York City.

Group C.
Industrial Relations.

Chairman—Waddill Catchings.

Address by Hon. William B. Wilson, Secretary of Labor.

Leaders—Meyer Bloomfield of Boston; Henry Bruere, Vice-President of the American Metal Co., New York.

SUBJECTS OF DISCUSSION.

(a) Employment problems raised by the war.
(b) Extent to which English experience is helpful.
(c) Transfer of workmen to war industries.
(d) Readjustment in employment after the war.

FRIDAY, SEPTEMBER 21, 1917.

First Session, 10 A. M.

1. Report of the Committee on Resolutions, discussion of committee's findings and action thereon in the name of the Chamber of Commerce of the United States.

La Metallurgie states that 14 to 30 per cent. of workers in metallurgical plants in France are women.

VIGOROUS ACTION TAKEN TO STAMP OUT PINK BOLL WORM.

Government Co-operating With State and Local Interests in Effort to Eradicate Pest Which Appeared at Texas Point.

[Special Dispatch to Manufacturers Record.]

Austin, Tex., September 18.

It is believed that the energetic action which has been taken by State and Federal authorities to cope with the pink boll worm which recently made its appearance in a cotton field near Hearne will result in quickly eradicating the pest or restricting it to the immediate territory where found.

A meeting of the Chamber of Commerce directors, business men, planters and farmers with the inspectors sent to Hearne by the State and National Government for investigation of the pink boll worm situation was held here last night. Speeches were made by T. S. Barber of San Antonio and Dr. F. B. Paddock of the Agricultural and Mechanical College, urging the great importance of energetic and effective measures being taken immediately to stamp out the pest and confine its operations to the small patch in which it was found if it has not already gone beyond its bounds.

Representatives of the territory from Calvert to Mumford and Bryan and some from Milam county were in attendance, and the utmost co-operation and diligence was decided upon in working with Government representatives in the effort to stamp out the worm. Today the field of infested cotton was burned, the Chamber of Commerce and Brazos bottom planters agreeing to recompense the owner for the loss. A committee of five also was appointed by the Chamber of Commerce and planters to urge necessary and immediate action by the Legislature on pending pink bollworm legislation. Examinations will be made of other territory adjacent to the infected area in order to completely stamp out the insect before it becomes generally prevalent.

After a joint hearing the Senate Committee on Agricultural affairs favorably reported, with amendments, Mr. Tillotsom's house bill providing for the destruction of the pink boll worm, making an appropriation of $20,000, and to encourage co-operation with the Federal agents. The amendments provide for the method of appraising the value of infected fields which are destroyed.

Dr. H. W. Cummings of Hearne addressed the joint committee on behalf of the Chamber of Commerce. He was one of a delegation of citizens of Hearne made up of Dr. Cummings, W. A. Wilkinson, R. C. Allen and Mr. Robertson. Dr. Cummings said the pest had been positively identified as the pink boll worm by an expert of the Department of Agriculture, and that all authorities had urged that radical measures be taken to stamp it out. The Hearne Chamber of Commerce had undertaken to pay for the damage, and the seven acres of cotton where the worm was found was destroyed by burning on the next day. He said expert opinion was that fields near where it was found must be destroyed. The Hearne Chamber of Commerce was willing to pay damages for fields destroyed locally, but he thought should not bear the whole burden of the fight to protect the cotton crop of Texas and of the South.

Answering questions, Dr. Cummings said that the worm was supposed to have been brought to Hearne in a shipment of cottonseed sent from Mexico to a local oil mill. The pink boll worm, he said, is a very serious enemy of cotton, and sometimes destroys 75 per cent. of the crop in counties infested by the pest. The history of the pink boll worm is that it had been brought to Mexico from Brazil and the Hawaiian Islands from Egypt, where it originated.

National Carbide Co. Plans.

Agricultural lime will be burned and carbide will be manufactured about one mile from Ivanhoe, Va., by the National Carbide Co. This is a new corporation chartered with $250,000 capital by S. M. Buck (president) and H. S. Brown, both of Bramwell, W. Va., and H. E. Gear of New York. A 22-acre site has been purchased, lime quarries have been leased, contracts have been awarded for construction and some contracts have been awarded for the mechanical equipment of the plant which will be built.

Chemical Industry Mobilized to Meet Country's Needs

The fifty-fifth meeting of the American Chemical Society, held in Boston last week, brought out in many ways the wonderful work which the American chemist has performed not only in supplying the industries of the country with the chemical materials and products so badly needed, but also in showing how he is meeting the demands of the Government created by the war.

At a general conference on chemistry and chemistry in warfare, conducted by Dr. William H. Nichols, chairman of the committee on chemicals of the Council of National Defense, and Dr. Marston Taylor Bogert, chairman of the chemistry committee of the National Research Council, Dr. Nichols brought out some very interesting facts. He said, in part:

"The chemical industry of the United States is mobilized. We are in fine shape to take care of any problems that arise regarding war needs and the supply of the nation. We have been getting ready for this war and its demands for several years, for we saw the way that affairs were tending. We feel confident that we can do much toward winning this war, and with all our science and ability to use it, we are going to win it.

"Potash is one of the most important subjects to which the chemical committee has given much attention, and already many evidences of practical results are seen, for there is every belief in our minds that the output of potash from various forms of recovery will mean that we cannot only supply the needs of the country next year, but that we can hold the manufacture here after the war is done. The greatest known deposit of potash in the world is awaiting development, and the chemical committee wants it made available for war supplies at once.

"That potash deposit is located in Searles Lake, in Southern California, a lake 60 to 80 feet deep, containing potash, soda and borax. It contains over 23,000 acres of the richest known deposit, which is estimated to be worth over $1,000,000,000. The immediate use of that deposit depends on Congress, to whom the committee has appealed for the rights to use the lake.

"Other sources of potash are its derivation or recovery from various by-products, among them being the dust from cement mills, where many thousand tons are reputed to be lost at the present time. Potash is not alone used in the making of war supplies, for it is highly important in the preparation of fertilizers, and the farmers of the country need all that they can get for the enrichment of their lands—in fact, many crops are small and apparently impoverished this year because the newly-turned lands are deficient in potash, the foliage, however, being strong and luxuriant. So the farmer will also receive our assistance, and the improvement in next year's fertilizers will also help win the war, for the problem will be solved in time for spring planting.

"The country is interested in so many lines of conservation that gas consumers will hardly be astonished to learn that they, too, must be willing to lend their mutual helpfulness by a certain amount of self-denial for the benefit of the national welfare. Toluol is one of the ingredients used in the making of gas, and it is also one of the most valuable ingredients used in the manufacture of tri-nitro-toluol, the basis of most of the shells stored at the naval bases. The Public Service Commissioners of various States require a certain quality of illuminating gas, and even their tests have been changed in order to allow for the manufacture of gas to go on with lesser quantities of toluol. The consumers will have to be satisfied with a slightly poorer quality of gas, at least until substitutes are found for that ingredient in making gas.

"So many are the products that are used in making valuable war materials and fertilizers which have become scarce in the open market that our chemical engineers have been working night and day to discover processes whereby the materials themselves or substitutes for them may be supplied quickly. Lack of pyrites has caused complications and shortage of both war materials and fertilizers. Sulphuric acid shortage also has been one of the baffling problems, and important steps have been taken to hunt out and develop every possible source of supply, so that there shall be no waiting. There are good deposits in the South, and the assistance of Secretary Franklin K. Lane of the Interior Department has been enlisted in the effort to develop the pyrites beds in Georgia.

"The consumption of sulphuric acid in 1916 was over 6,250,000 short tons, an increase over 1914 of 30 per cent. The amount used in the manufacture of fertilizers has remained about the same, but the increase has come from the abnormal manufacture of explosives."

The main work of the convention was conducted through the following divisions: physical, organic, inorganic, biological, industrial and engineering, pharmaceutical, rubber and fertilizer. Many papers referring to food products and ingredients, drugs, acids and oils, porcelain ware and new fertilizers as well as new recoveries of fertilizers were presented to the various audiences.

A new method of preparing mirrors was presented by Alexander Silverman and Raymond M. Howe of the School of Chemistry of the University of Pittsburgh. The silver films are deposited on glass by the use of aldehydes in the presence of alcohols and sugars, the mirrors forming in the cold. The cost of mirror production is lowered considerably, and the efficiency of the process is higher than old methods in use.

Two valuable papers were presented before the fertilizer division by Alfred H. Cowles of New Jersey and Alfred W. Scheidt upon the preparation of new fertilizer made from calcium silicates, supplying lime and soluble silicates for improving plant growth. This new fertilizer has already been found to be of great benefit to the growing of tobacco, sugar and other beets, buckwheat, clover and grass. Experiments have been made with clover which show that one-third more luxurious foliage has been developed through the use of soluble silica, this result having been confirmed by State agricultural experiment stations all over the country. It is well known that soils which contain a great deal of humus and which have not been cultivated conserve the natural silica for future plant growth. Soils which are under constant cultivation are robbed of this silica with the taking of the crops, and so must have the silica or its equivalent returned to the soil to maintain its productivity.

One of the important feature brought out in the meeting was how this country has developed the manufacture of optical glass. Dr. Arthur L. Day of the Geophysical Laboratory, Washington, D. C., speaking on American-made optical glass, stated that when the United States entered the war this country was practically destitute of the materials from which to make optical glass, so badly needed by he Army and Navy for periscopes, range finders, field glass and other instruments. Heretofore this glass was manufactured largely in France and Germany, none being made here, and no one here knew how to make it. The Geophysical Laboratory and the glass men of the country, after working on the problem for three months, were able to provide a sufficient supply of optical glass for all the needs of chemists. Every obstacle was overcome, and next month it is promised that 45,000 pounds of American optical glass will be produced.

Dr. Charles E. Coates of the Louisiana State University told of a method he had worked out for treating sawdust waste so that it could be converted into a charcoal which would enable sugar plants to put a sugar on the market that would be equal in color to the refinery product and sell at a somewhat lower price.

Many other interesting facts were brought out in the various divisional meetings, all of which evidenced how the American chemist has met an unusual situation and is solving problems affecting every phase of industry.

Texas Cattle Coming by Thousands to Mississippi.

Jackson, Miss., September 15—[Special.]—Movement of beef cattle from the drouth-stricken regions of Texas to Mississippi stock farms has begun, and it is expected that many trainloads of grade and pure-bred Herefords, Shorthorns and Anguses will be brought into this State this fall.

Clay county received the first shipment during the past week, two carloads of breeders. Money has already been put up for a trainload—30 cars—and representatives of stock farmers are in Texas buying up the cattle.

H. C. Culberson, representative of ranchers in the drouth area, is in Mississippi conferring with Mississippians who are anxious to buy the cattle. The State department of agriculture and the extension department of the A. and M. College are assisting in the work.

The most urgent immediate demand is for breeding stock, as the greatest livestock development in the history of this section is under way in Mississippi. Feeders are wanted, too, to help take care of the huge forage crops now being harvested.

Plans are being laid to have the cattle moved in trainload shipments, which means the importation of thousands of head of stock in this State within a few weeks and the foundation for a livestock industry that will soon put Mississippi on an equal footing with the States of the Middle West.

Potash Production Increasing Rapidly.

More potash has been produced during the first six months of 1917 than was made during the entire year 1916. The reports received by the United States Geological Survey, Department of the Interior, have been reduced to terms of the commercial unit commonly used to measure the available or water-soluble potash (K_2O) in the product, and only material actually sold by the producer during this period is included. The weight of the materials handled was therefore much greater than represented by these figures.

SUMMARY OF THE PRODUCTION OF POTASH IN THE UNITED STATES, JANUARY TO JUNE (INCLUSIVE), 1917.

Source.	Available potash (K_2O). Short tons.	Value at point of shipment.
Natural salts or brines	7,749	$2,808,240
Alunite and dust from cement mills and blast furnaces	1,867	746,576
Kelp	2,143	1,348,095
Distillery slop, wool washings, and miscellaneous industrial wastes	1,153	876,714
Wood ashes	*111	84,414
	14,023	$5,864,039

*Only 25 reports of production from wood ashes have come in, some of the larger producers not having made returns.

This table includes practically all potash produced.

The Nebraska alkali lakes still lead, having yielded about one-third the entire production. There are now at least four important operators in this field.

The production from Searles Lake, Cal., would undoubtedly be materially assisted by passage of the legislation now before the House of Representatives dealing with the leasing of potash-bearing lands. Continued uncertainty as to the status of titles to this property has hampered development of this important deposit.

No production is reported from feldspar or other silicate rocks, but considerable quantities of potash salts and potash-bearing fertilizers were obtained from the dusts in cement mills and blast furnaces.

The production from kelp was about 15 per cent. of the total, as it was in 1916.

Potash from distillery slop and other organic sources made 15 per cent. or more of the total.

The production of potash from wood ashes, including "first sorts," "pearlash" and other grades, is supposed to have been much greater than it was in 1916, but reports from these producers have been much delayed and the figures obtained thus far are probably not representative. The potash made from wood ashes thus far reported amounted to 222 tons, which is assumed to average at least 50 per cent. K_2O. This is perhaps too low, but definite information as to the grade of this material is difficult to obtain.

The prices quoted range from $3.50 to $6 a unit, a unit meaning 1 per cent. of potash (K_2O) in a ton of the material as marketed—that is, a product carrying 25 per cent. (K_2O) may be sold at $4 a unit, which would be $100 a ton for the material marketed.

The figures given seem to indicate that the production for 1917 will exceed 25,000 tons of potash (K_2O), or two and one-half times that made in 1916. This is about 10 per cent. of the average normal yearly consumption of the country before the war, showing the need of further stimulating domestic production of potash.

Immense Water-Power Development Planned on Streams of the Carolinas

[Special Correspondence Manufacturers Record.]

Raleigh, N. C., September 15.

The Carolina Power & Light Co., headquarters at Raleigh, has acquired all the water-powers on the Yadkin River and the Pee Dee River between Badin and Cheraw, there being five of these power sites, and has also secured an important power site on the Rocky River, a swift and large stream which flows into the Yadkin below Badin. The five power sites referred to on the Yadkin are irrespective of the one at Blewett's Falls, which is already developed, and which furnishes electricity to many points in North and South Carolina.

This acquisition of water-powers on the most important of the streams in this State means immense developments and great investments. The same company has acquired 27,000 horse-power at a plant on the Waterce River, in South Carolina, and is building a transmission line to tie in this. The company has acquired all the light and power privileges at Marion, Florence, Darlington, Mullins and the other towns in eastern North Carolina between the North Carolina line and Somerville, and as far back as Cheraw. There are steam plants at these places. The Waterce power will be tied in with that from the Yadkin River plant at Blewett's. Many new electrical installations will take place in that territory under the management of the Carolina Power & Light Co.

An interesting point is that the latter company has made no increase in its charge for power or light, in spite of the fact that the coal cost trebled and all materials have advanced enormously.

The acquisition of all the power rights between Badin and Cheraw on the Yadkin River and the Pee Dee (the stream taking the latter name as it crosses the State line between North Carolina and South Carolina) was a big undertaking and investment, but was quietly done, and the company now has undisputed title and possession. Cheraw is the head of navigation. The Aluminum Company of America owns and operates the plant at Badin, with the biggest dam (217 feet high) in the South, and it is building 2½ miles below this its last dam, to develop 32,500 horse-power.

FRED A. OLDS.

TO UTILIZE THE WARRIOR RIVER.

Alabama Cities Along the Route Make Move to Provide Terminals and Transportation Lines.

Tuscaloosa, Ala., September 15—[Special.]—Delegates to the waterways conference, which adjourned here Thursday night, have returned to their homes to report to their respective civic organizations the comprehensive and definite plans adopted for the formation of the Alabama Navigation Association. On ratification by the various cities affected a second convention will be called by President Forchheimer of Mobile.

The charter committee, which will perfect the form of the organization which will have the power to buy and operate transportation lines and terminals, has been named and will enter on its duties at once. It is composed of James Weatherly of Birmingham, chairman; Frank G. Blair, Tuscaloosa; C. B. Tindall, Mobile; W. F. Herbert, Demopolis; Frank S. White, Birmingham.

The traffic committee, headed by M. M. Caskie of the traffic bureau of Montgomery, the finance committee and the executive committee of 15 have been provided. The executive committee was empowered to employ immediately an expert to make a survey of the situation and recommend the types of terminals and carriers to be adopted. The traffic committee is at work compiling data as to inbound and outbound traffic, which will be used as a basis of investigation.

The Federal Department of Commerce, the Engineering Corps of the War Department and the Inland Waterways Committee of the Council of National Defense are all in close co-operation with the new organization, having had representatives at each conference. These factors in the situation were pointed out forcefully in the addresses before the convention:

The economic necessity of a greater use of Alabama's splendid waterway system has been stressed by recent conditions. The railroads, through the Council of National Defense, have promised through bills of lading, and Chairman Fairfax Harrison has stated that they would welcome the relief which a greater use of the waterways would bring. The Government has promised to lend equipment and other assistance. And the rulings of the Interstate Commerce Commission removing to a certain extent the former advantage which river towns enjoyed regardless of the extent to which the river was used have made a greater use of the river a matter of self-protection to the communities affected.

The opportunities of the Warrior, one of the longest canalized rivers in the world, extending from the important industrial district of Birmingham to the port of Mobile and by intercoastal route to New Orleans, were stressed by the speakers.

Officers of the new associaton declare that important announcements may be expected soon. Prompt and definite action has been authorized, they say, and will be taken.

The officers elected were H. A. Forchheimer, Mobile, permanent chairman; W. M. Clemons, Mobile, permanent secretary; Frank M. Moody, Tuscaloosa, treasurer. Former Senator Frank S. White of Birmingham was chosen vice-chairman for that city, and C. L. Harold, assistant secretary for Birmingham. Other vice-chairmen and assistant secretaries will be chosen by the civic bodies of the various cities affiliating.

Mobile, Montgomery, Selma, Demopolis, Tuscaloosa and other river cities of Alabama were represented at the conference by strong delegations.

Among the addresses which featured the meeting were those of Congressman W. B. Oliver, Capt. A. A. Poland, army engineer; M. M. Caskey of Montgomery, F. G. Blair of Tuscaloosa and former United States Senator Frank S. White of Birmingham.

Many Small Industries Successfully Operating at Mobile.

Mobile, Ala., September 15—[Special.]—There are several small industries located just outside the northern limits of Mobile which manufacture large numbers of staves as well as 80 per cent. of the cigar-box lumber in the United States. There are about a dozen veneer plants and small lumber mills located in this immediate neighborhood. They were established without excitement, and have quietly settled up a section of Mobile, now close to the Steel Corporation's proposed shipyard site, which has caused this land to treble in value. Some 1200 men are given employment there. The weekly payroll is around $13,000. These small industries are conveniently located both to big railroads entering Mobile as well as the river front.

The Pekin Cooperage Co. is the newest arrival. The plant has been operating since September 3. Seventy-five men are employed. When capacity operation is attained the company will turn out between 1200 and 1500 barrels a day, according to L. E. Miller, local manager.

The Lucas E. Moore Stave Co., one of the oldest established concerns of the kind in North Mobile, now has a payroll between $1500 and $2000 weekly. Shortage of railroad cars for transporting their product recently has limited the plant's production. About 50,000 staves are daily turned out there. A large percentage of these are sent to New Orleans, where they are used in the manufacture of molasses barrels.

The Jerome Sheip Company employs about 175 day men and 40 men at night. This company is keeping close to its capacity of 100,000 feet of finished cigar-box lumber a day, the largest amount, it is said, turned out by any similar mill in the world. The nearest approach to this volume of products is 60,000 feet a day.

The Magazine Sawmill Co. has 5,000,000 feet of lumber piled on its yards here. The mill cuts about 10,000,000 feet annually.

Other industries in this immediate neighborhood include the Gull Mill Co., employing 100 men; Bay Poplar Lumber Co., payroll $1800 a week; R. H. Benner & Co., 150 men, payroll $1500 a week; E. H. Wheeler Veneer Mill, 36 men, $300 per week; Hardwood Dimensions Co., recently established and employing 30 men and the Mobile Coal Co.'s mill, employing 60 men and with a payroll of $600 a week.

Plans Perfected for Drainage of Louisiana Lands.

New Orleans, La., September 17—[Special.]—A contract has been authorized by the New Orleans Sewerage and Water Board with the Jefferson-Plaquemine Drainage District authorities for the exchange of equipment to make possible, without large money expenditures, which neither could afford, the digging of main and lateral canals for draining 37,000 acres in these parishes, 12,000 acres of which are in Orleans parish on the west side of the river. The Hero pumping station was built to drain this area, but it has been unable to do so effectively because sufficient depth could not be got in the canal system to allow a swift flow of water.

Under this contract the Sewerage and Water Board will use its large dredge for deepening and widening the Bayou Barataria and Algiers outfall canal from the Hero station to the Grand Isle Railroad. The funds to do this will be supplied from the balance in the hands of the board of the appropriation made by the city to meet proportionate cost of operating the pumping station, which will have amounted to $15,312 by January, 1918. The city had held up this appropiration because the drainage system was not benefiting Orleans parish on account of the failure of the canals.

The Jefferson Parish Drainage District agrees to build an intersecting canal along the west side of the river in Orleans parish and to deepen and improve the old Planters' Canal. It has a small dredge fitted for this work. The district has an appropriation of $20,000 to cover costs.

Activity in Boring for Gas at Corpus Christi.

Corpus Christi, Tex., September 15—[Special.]—The Southern Gas Co. of San Antonio on Sunday afternoon, September 9, brought in on the Siedermann lease, eight miles west of Portland, a gas well at a depth of 1650 feet, which is estimated to be a producer of about 5,000,000 cubic feet daily.

The gas is mixed with a strong flow of salt water, but the drillers are confident that it can be separated without difficulty. Three days after the well was brought in it was put under control.

Four miles southeast of Taft the Southern Gas Co. has started its test No. 2. This is in a location several miles removed from any previous wild-catting operations in the White Point section. W. T. Gonce is in charge of drilling at this test.

The Gulf Production Co. in its test No. 5 was down to 4010 feet on September 12. At a depth around 3200 feet a strong flow of gas was encountered, but it was cased off without any considerable difficulty. It is announced that the company will go 5000 feet if necessary in this test. Already it is the deepest sink that has been made in operations in the Corpus Christi section.

Ramsey Bros. and associates of Lampasas have abandoned their initial test at Angelita, 18 miles west of Corpus Christi. The hole was lost at a depth of 4000 feet, the drillers working for three weeks without success in trying to fish out a string of pipe that had been lodged in the bottom of the hole.

On the Clarence Kirk lease, along Nueces Bay, and eight miles west of Portland, C. L. Witherspoon of San Antonio is starting his second test. Lumber for the derrick is on the field, and it is said the drilling will begin not later than September 25. Mr. Witherspoon has announced that if he succeeds in getting a good gas well he will negotiate for supplying natural gas in Corpus Christi.

The City Council of Corpus Christi has under consideration plans for the municipality sinking its well, believing that this may be a solution of the problem of supplying natural gas to the people of the city. Mayor Roy Miller expects to have complete plans in this respect worked out shortly.

Eight Aviation Instruction Camps Under Construction in the South

[Special Correspondence Manufacturers Record.]

Washington, D. C., September 17.

With the 16 national army cantonments and the National Guard camps either virtually completed or nearing completion, the most important emergency building project on which the Government is now engaged is perhaps the aviation training camps which are being rapidly pushed by the construction division of the Signal Corps. Because of the necessity of providing flying instruction in winter as well as summer, the greater part of these camps will necessarily be located in the South, and eight of them are already under process of construction there, at Fort Sill, Okla.; Lake Charles, La.; Memphis, Tenn., and San Antonio, Wichita Falls, Fort Worth, Waco and Houston, Tex. Both the level character of the country and the climate have made Texas a peculiarly advantageous location for the training of American airmen, and the San Antonio field will be used this winter also by a certain number of Canadian recruits of the Royal Flying Corps, who will move South with the advent of cold weather.

In addition to these eight flying fields, an experimental field is in process of development at Hampton, Va., and a large warehouse for the use of the Signal Corps is being erected at Richmond, Va. The flying field program on which the Government has decided calls for a total number of 24, and additional fields will undoubtedly be placed in the South as soon as their final location is determined and construction can be started.

The total construction program of the Aviation Section already under way calls for the expenditure of approximately $20,000,000 and the use of about 70,000,000 feet of lumber. In addition to the Southern camps already named, aviation fields have been virtually completed at Dayton, O.; Mt. Clemens, Mich.; Rantoul, Ill.; Belleville, Ill., and Mineola, L. I., where one field is practically complete and another of the same size under construction. The section is putting up big warehouses, furthermore, at Harrisburg, Pa., and Dayton, as well as at Richmond. A balloon school has been practically completed at Fort Omaha, Neb.

The majority of the training fields named will provide accommodations for two air "squadrons" of 150 men each, with the necessary complement of instructors, enlisted men and mechanics, making a total of from 900 to 1000 men. At San Antonio, however, there will be two fields of two squadrons each, separated by a short distance, with an added irregular quota, making the equivalent of about five squadrons in all. Fort Worth will also have two fields, with a total quota of four squadrons, as will Lake Charles. Of the northern fields, Dayton provides for four squadrons, and Mineola will have two separate fields of two squadrons each.

Roughly speaking, a camp for two squadrons means the expenditure of between $700,000 and $800,000, varying, of course, with the location and the possibilities for securing water, lighting facilities, proper sewerage and similar considerations. As the necessity of securing a clear space for flying and landing makes it imperative that the fields be well away from obstructions, it is usually necessary to establish complete lighting, water and sewerage plants instead of using those belonging to nearby towns, as was sometimes possible in the case of the army cantonments.

Each two-squadron field requires the consumption of about 3,500,000 feet of lumber. It demands the building of 12 hangars, each hangar accommodating six aeroplanes. Each hangar is about 200 feet long, 100 feet wide and 40 feet high, divided into two sections by a partition, each half offering accommodations for three machines in a row. In addition to the hangars, the buildings include barracks, mess halls, officers' quarters, machine, blacksmith and woodworking shops, hospitals and lavatories. Most of these buildings are about 20x330 feet. The dormitories resemble closely those built in the national army cantonments.

Of the Southern camps those most nearly completed are Camp Kelly, at San Antonio, and Fort Sill. The former is nearly done, while the latter is more than half complete. The other Southern camps are little more than begun. In its work to date, however, the construction division of the Aviation Section has set a commendable record for accomplishment, and unless there is some unexpected delay another month should see all the camps now begun well on their way toward completion, with additional schools started. At the first Northern camps, particularly those at Rantoul and Dayton, the urgency of the need for providing places for the flying students was so well met that 30 days after the beginning of construction saw the fields, although not entirely finished, ready to receive flyers.

The construction work of the Signal Corps has been carried on entirely independently of the building of the national army cantonments, except that the lumber has in both instances been secured through the system set up by the lumber committee of the Council of National Defense. This, indeed, was vital, to prevent conflict in demands between the various branches of the Government requiring lumber for construction.

Under this system the lumber manufacturers of various sections of the country were organized in seven emergency bureaus. Those in the South included the North Carolina Pine Emergency Bureau, the Georgia-Florida Yellow Pine Emergency Bureau, the Southern Pine Emergency Bureau and the Redwood Lumber Emergency Bureau, in California.

Under this arrangement the construction authorities have informed the lumber committee of their respective needs. The committee has then decided from which section lumber could be shipped most cheaply and economically for the construction of a given camp, and wired the headquarters of the bureau selected how much lumber was needed and where. The bureau then proceeded to allot shipments to the mills within its district, basing its decision on the speed with which it could be secured and economy in transportation. The bureau further assumed responsibility for the arrival of the shipment, keeping close check on the manufacturers and also reporting daily to the lumber committee on its progress.

In this way the lumber committee was kept thoroughly informed as to the progress of the work, and if necessary could negotiate with the Railroads' War Board at Washington for additional freight cars in case of a car shortage, or in other ways expedite the work. The price had previously been negotiated through conferences with groups of manufacturers.

Through this system of localizing needs where they could best be met the Government has almost everywhere been able to get its lumber quickly and with the least waste of transportation facilities.

Immensity of Cantonment Construction Job.

Washington, D. C., September 14—[Special.]—Director W. S. Gifford of the Council of National Defense warmly commends the work of the Committee on Lumber in a statement describing the activities of the various subcommittees of the Council. Mr. Gifford says:

"Particularly extensive has been the work of the cooperative committee on lumber, which has touched the war needs of the Government at almost every point, and which has been of especial importance during the past few weeks because of the building of the new army cantonments. Lumber for the cantonments, for aviation fields, for shipping, for naval stations, for storage warehouses, for innumerable other projects, has been secured in the requisite quantities almost entirely through the agency of the committee, and at prices distinctly below the wholesale market rate. Gratifying results have been secured through direct contact with groups of lumber manufacturers and lumber associations, organized into emergency bureaus. Just one instance of the committee's accomplishments in assisting the quartermaster's department: More than 25 per cent. of the cantonment lumber had been delivered already or was in transit by the middle of July. The committee has not only furnished valuable advice on specifications, helped in making arrangements for purchase in proper quantities, but has also given constant aid in expediting shipments."

The completion of the 16 cantonments for the national army is one of the greatest construction jobs ever undertaken by any Government, and within three months the Government has expended approximately $150,000,000 upon this work, whereas the largest amount appropriated in any one year for the Panama Canal was $46,000,000. Within 60 days 190 sawmills in all parts of the country shipped more than 500,000,000 feet of lumber to the cantonment sites. All together, 93,000 kegs of nails were used; there were installed 140,000 doors and 686,000 sash, while nearly 30,000,000 square feet of wall board was used for inside sheathing. When paved streets, telephones, fire protection, electric lights, water supply and sewerage disposal are added to this undertaking some idea may be had as to the wonderful piece of work done in record-breaking time in providing comfortable quarters for the national army.

Important Discovery Will Benefit Southern Sugar Industry.

New Orleans, La., September 15—[Special.]—Another sugar decolorizing substitute for bone-black, now so extensively used in sugar-making, has been discovered by Dr. C. E. Coates, dean of the Audubon Sugar School of Louisiana State University. He has discovered a method by which sawdust, preferably yellow-pine sawdust, can be charred in an electric oven at a fixed temperature into a decolorizing agent which is said to be a more efficient substitute for bone-black than the rice char recently proven practicable by actual refining tests at the sugar experiment station at Audubon Park in this city.

The discovery of a cheap substitute for burnt animal bone has long been sought by others, and Dr. Coates has been from the beginning one of the leading spirits in the greater white sugar manufacture campaign started in this State several years ago. Experiments were conducted by him with both cypress and pine sawdust, but the pine seems to be the better adapted of the two substances for this purpose. Numerous laboratory tests have absolutely proven the charred sawdust to be a perfect decolorizer.

The success of this process will mean a vast increase to the timber values of the Southern States. Expert sugar men say that the sawdust char process will elevate this long disregarded sawmill waste to the same high relative position in the lumber world that cottonseed now occupies in the kingdom of cotton.

Apropos the rice char proposition situation, it is learned that plans for a plant to manufacture it on a large scale are now maturing.

Atlantic Paper and Pulp Corporation Begins Operations.

Savannah, Ga., September 15—[Special.]—A new chapter in Savannah's commercial history was started today with the beginning of operations at the plant of the Atlantic Paper and Pulp Corporation, located at the Port Wentworth Terminal, on the outskirts of the city.

This corporation, which was organized some months ago by William Morris Imbrie & Co. and other New York interests, will produce "kraft" paper pulp from short-leaf Southern pine by the sulphate process. It is the only mill of its kind in this section of the country, and is one of about a dozen sulphate pulp producers in the United States. It will turn out about 60 tons of pulp daily.

Most of the "kraft" pulp used in this country has come from Norway and Sweden, but with the growth of the domestic industry it is probable that within the next few years the bulk of the supply needed will be produced here.

At present the United States is still importing Swedish and Norwegian pulp, as the magnitude of the demand for strong, light containers and packing cases of the tough kraft materials makes a strong market for all available. The growth of the parcels post system and the shortage of tin and glass wares are important factors affecting this demand.

Isaac H. Fetty is president of the paper corporation as well as of the Port Wentworth Lumber Co. and the Savannah River Lumber Co. Directors include Hugh G. Levick of Lee, Higginson & Co. and James Imbrie of William Morris Imbrie & Co.

Extensive Shipbuilding Planned at Slidell, La.

New Orleans, La., September 15—[Special.]—In the presence of more than 1000 persons, the freight and passenger carrying wooden steamer Maple was launched today at the yards of the Slidell Shipbuilding Co. at Slidell, La. The Maple, on which work was begun last November, is the largest passenger ship ever built in this part of the country, and will be ready within 45 days to be put into service between Miami and Jacksonville, Fla., for the owner, Chas. L. Dimon of Mt. Vernon, N. Y., president of the Coast Steamship Co., and other lines.

The Maple is 190 feet long, with 34-foot beam, and has a cargo depth amidships of 11 feet 6 inches molded and 13 feet ¾ inches outside. Her beam over-all is 38.8 feet and molded beam 34 feet. She has stateroom accommodations for 20 passengers. Southern pine is used almost exclusively in the construction of the vessel, which is finished in especially attractive fashion on the interior. Native woods are used throughout. The Maple will have a speed of about 10 knots an hour, and will be propelled by an 800-horse-power single-ended boiler compounded engine.

Both still and moving pictures of the launching were taken under the auspices of the Southern Pine Association, whose mills furnished nearly all the materials entering into the construction of the ship. The moving pictures will be shown throughout the country by one of the national film syndicates.

Extensive work is now in progress at the plant of the Slidell company for an enlargement of the yards preparatory to beginning early construction on eight composite ships of 3500 tons each for the Government. These ships will all be built with steel frames and wooden planking. It is hoped to begin construction of the Government ships between October 15 and November 1.

Two wooden ships are now being built for private interests at Slidell, the first of which is expected to be launched in about 50 days and the second in 120 days. As soon as these vessels are put in the water, the ways on which they now rest will be enlarged for the accommodation of Government vessels. It is planned to build at the same time four of the eight Government vessels contracted for.

The Slidell plant, which will shortly be one of the largest in the South, was for a number of years operated in a small way as the Slidell Drydock & Shipbuilding Co. May 15, 1916, the keel was laid for the first ship of large dimension built there. This vessel was launched December 30, 1916, and since then two other ships have been completed.

S. Culyer Jenkins has been made assistant general manager of the company. Mr. Jenkins is recognized as an authority on shipbuilding, and was recently marine designer for the Panama Canal, where he had charge of the design of about 90 steel ships, which are now on the seas. Previous to his connection with shipbuilding work on the canal Mr. Jenkins was for a number of years with the Newport News Shipbuilding Co.

Much Activity at Mobile's Shipbuilding Plants.

Mobile, Ala., September 15—[Special.]—The Kelly-Atkinson Company will begin work on the first vessel of its Federal contract to construct 18 cargo steel and wood ships by October 1. The first of the six ways was completed last week. By December 1 this concern expects to have several ships of the $10,000,000 contract under way. If the company is successful in getting all the men it needs, about 1000 will be given employment.

This week the company began laying the foundation for its $50,000 machine shops. Sixty thousand staves a day are being moved from the Kelly-Atkinson site by George M. Rosengrant, stave exporter. Millions of staves were stored on the site when the Chicago contractors secured it for shipbuilding purposes.

The Dullutt-Williams Company, having a contract to drive piling for the Kelly concern, has about finished piling for the third ways, and will start the fourth one this week. The Dullutt-Williams Company operates four drivers, and from 150 to 240 pilings are driven daily.

The Alabama Drydock & Shipbuilding Co. has been awarded a contract for overhauling the steamer Flirt, 1500 tons. President D. R. Dunlap says the Flirt will be practically rebuilt. He added that he is working a large force of men on other work, including Government contracts. The weekly payroll of this company is about $30,000.

The Murnan Shipbuilding Corporation announces that its ways will be completed in two or three weeks, and the concern will start building its four composite vessels for the United States Shipping Board within 30 days.

The Steel Corporation's engineers are clearing the site for the new plant on the Chickasabogue 11,500-acre tract.

Large Shipbuilding Plans at Brunswick.

Brunswick, Ga., September 17—[Special.]—Plans announced for the shipbuilding plant of the United States Maritime Corporation call for the erection of six shipways, two drydocks, one very large and one for smaller vessels, the construction of about 1800 feet of dock for rigging, fitting and repairing vessels, the dredging out of a basin 1500 feet long and 250 feet wide from Clubb's Creek, where it empties into Back River, and the erection of seven buildings, including a foundry, woodworking plant, mold loft, storage warehouse for materials, steel fabricating mill, power-house and machine shop. A large hydraulic dredge has been purchased by the company and will be sent to Brunswick and kept constantly at work, day and night, dredging the basin from Clubb's Creek and filling in the 100 acres of marsh land contained in the site. Already 10 acres have been filled in by a dredge working under contract, and three piledrivers are driving the piles for six shipways. The ground will be filled in all the way back to the Dixie Highway, from which tourists passing to and from Florida will have a most interesting view of the mammoth shipbuilding plant.

Powerful Tug in Freeport-Tampico Oil Service.

Freeport, Tex., September 10—[Special.]—The Freeport Sulphur No. 2, believed to be the largest and most powerful tug ever placed in service in the waters of the Gulf of Mexico, arrived at Freeport yesterday, and will be immediately placed in towing service Freeport to Tampico, transporting oil. This tug was built especially for this class of service, and left last week from a North Atlantic port for Freeport, her home port. The vessel had in tow the Freeport Sulphur No. 4, an additional 15,000-barrel capacity whaleback ocean-going barge.

The tug is 160 feet in length, has 26-foot beam, has rated horse-power of 1200, capable of producing 1400, is of 16½-foot draught, and carries a crew of 21 men. It is equipped with 500 watt electric plant, has propeller 10½ feet in diameter, making 120 revolutions a minute at full speed ahead, is equipped with wireless, and can transmit and receive messages up to 600 miles out. Oil is used for fuel, and daily consumption amounts to 100 barrels when in steady service.

The Freeport Sulphur Transportation Co. is owner of the craft, and this makes four vessels now owned and in service of transporting fuel oil to Freeport. The vessels, in addition to the two above, are Freeport Sulphur No. 1, a 25,000-barrel capacity tank steamer, and Freeport Sulphur No. 3, a 15,000-barrel capacity ocean-going barge, and twin ship to No. 4.

Freeport industries are now the heaviest consumers of fuel oil in the South.

New Orleans Wants Steel for River Fleet.

New Orleans, La., September 17—[Special.]—M. J. Sanders, president of the New Orleans Board of Trade, is seeking to gain for river transportation the same advantages which are now being offered for ocean navigation, and requests that the United States Shipping Board furnish 15,000 tons of steel for the building of a Mississippi River fleet at the same rates per ton which the Shipping Board will pay for steel for their own ships.

A statement was made by Mr. Sanders of his interview with President E. E. Hurley of the Shipping Board in his report to the board of directors of the Board of Trade, who held their regular monthly meeting last week.

"All that we ask of the Shipping Board is that they will agree to furnish us some 15,000 tons of steel at the same price per ton as they will pay for their own ships, and then we can doubtless, with St. Louis and Memphis, form the River Transportation Co. upon which we have been working for some time past," declared Mr. Sanders.

"Mr. Hurley intimated views favorable to our wish, and asked your president to write him the substance of our interview, which I have done since my return here."

Profits in Ships Under War Conditions.

Brunswick, Ga., September 17—[Special.]—The sale of the schooner Glynn, the first ocean commerce carrier built south of Newport News since the war began and the first of such vessels built in Brunswick, has brought out facts showing the remarkable profits to be made from shipbuilding and the operation of freight ships under war conditions. Under date of September 7 the Atlanta Constitution editorially states that the Brunswick Shipbuilding Co. made a profit of 25 per cent. on the building of the vessel; that her purchaser, James S. Brailey, Jr., received $52,000 freight for the voyage to Italy with naval stores, and then sold her to French interests for $90,000. After deducting $21,500 for insurance, outfitting and provisioning, and the salaries and wages of the crew, the Glynn netted him $45,500 in six months.

Shipbuilding News of the Week.

Construction is progressing on the Houston (Tex.) shipyards of the Midland Bridge Co., Kansas City, Mo., which recently secured Government contracts and announced its plans. The company advises the MANUFACTURERS RECORD that the yard, mill buildings, carpenter shop, oil and paint shop, warehouse and office building have been completed, and that a part of the first set of ways has been built. The site has been entirely cleared. Railway tracks have been laid to a connection with the Southern Pacific Railway, an electric-lighting system has been installed and water-works will soon be completed. It is expected that the keel for the first ship will be laid by October 1, which is practically 60 days after the contract for ships was signed.

The Gulfport (Miss.) Shipbuilding Co., recently chartered with a capitalization of $50,000, has organized with the following officers: W. T. Stewart, president; B. E. Eaton, vice-president; J. A. Bandi, secretary-treasurer; T. M. Favre, manager; J. E. Gordon, auditor and purchasing agent. Recent mention of this enterprise was erroneous in the names of those interested.

J. C. Redman and A. P. Vane of Baltimore have organized the Redman-Vane Shipbuilding Co. and purchased the shipyards of J. S. Beacham & Bro. Its property includes a water frontage of 254 feet, 280 feet on Key Highway, steam railway, two marine railways, blacksmith shop, boat shop, bar sheds, block shop, etc. A new company plans improvements to include adding to machine equipment and installing facilities for the repair and equipment of power craft.

Houses for Workmen in Shipbuilding Plants.

Brunswick, Ga., September 17—[Special.]—Announcement has been made by the United States Maritime Corporation of plans for the building of more than 100 dwelling-houses for their employes on land deeded the company by the city of Brunswick adjoining the 100-acre site on which their large shipbuilding plant is now being erected. Twenty-seven acres were donated, under agreement between the city and the company, by which the company obligated to erect the houses for its employes. The property has been surveyed and laid off in lots and streets, and a large public playground and park reserved fronting on the Dixie Highway and facing St. Simons Island and the Atlantic Ocean. The plans decided upon provide for 120 lots. A few large houses will be built for supervisory officials, and the remainder will be for mechanics, but all will be comfortable and well built, and fitted with every convenience and thoroughly sanitary.

The building of houses for employes has been begun by the American Shipbuilding Co., work having commenced on four bungalows for engineers of the company. A large number of smaller houses will be built for work-

men. It is expected that the Brunswick Marine Construction Corporation will shortly commence building 35 houses for employes, assurances having been given the housing committee of the Board of Trade by President W. U. Taylor of the shipbuilding company that his company will build that many houses at once.

The work of organizing a local house-building corporation, which is being handled by the housing committee of the Brunswick Board of Trade, is progressing, and should soon be completed and the work of providing homes for the families of mechanics will be commenced. At present there are a large number of mechanics who cannot bring their families to Brunswick because houses are not available. One white family is living in a tent near one of the shipbuilding plants until a house can be secured. With the coming of several thousand more workmen who will be brought in as soon as the four shipbuilding plants now under construction are completed, there will be demand for hundreds of houses in addition to those being built or planned at this time, even though the shipbuilding companies erect a large number of dwellings, as they intend to do.

The scale of rents in Brunswick will shortly be raised. The present scale was adopted during the depression of 1914, following the outbreak of the war, and is entirely too low under present conditions. People coming to Brunswick to live are begging for houses and offering to pay much higher rents. The rates will be raised to an extent that will make the renting of houses pay a reasonable return on the investment and attract capital into that line of investment and prove an inducement to people to own their homes. Strange to say, there has been no speculation in real estate in Brunswick yet, and prices of lots have not risen. There exists an unusual opportunity to buy lots and build bungalows and cottages either for renting or sale that will yield a good return on the money and give a handsome profit from appreciation in value.

Increased Coal Production in 1916.

The production of coal in 1916 was 590,098,175 net tons, valued at $867,125,638, an increase compared with 1915 of 58,478,688 tons, or 11 per cent., in quantity, and $180,434,452, or 26 per cent., in value. The production of bituminous coal was 502,519,682 tons, valued at $665,116,077, an increase of 13.5 per cent. in quantity and 32.5 per cent. in value. The production of Pennsylvania anthracite was 87,578,493 net tons, valued at $202,009,561, a decrease of nearly 2 per cent. in quantity, but an increase of more than 9 per cent. in value. These figures, which have just been issued by the United States Geological Survey, Department of the Interior, were compiled by C. E. Lesher.

All the principal coal-producing States showed increases in output. The most notable increase was in Ohio, whose production of coal in 1916 was 12,293,528 tons, or nearly 55 per cent. greater than in 1915. The increase in the value of the Ohio product was nearly $22,000,000, or about 91 per cent. The largest increase in quantity was in Pennsylvania—12,340,287 tons, or 7.8 per cent., compared with 1915. The increase in West Virginia was 9,276,058 tons, or 12 per cent.; in Illinois, 7,365,760 tons, or 12.5 per cent., and in Indiana, 3,087,376 tons, or 18 per cent. Iowa, New Mexico, Oklahoma, South Dakota and Texas recorded slight decreases in 1916 compared with 1915. The output of bituminous coal in 1916 established a new record in the United States as a whole and also in most of the individual States.

The average value of anthracite was $2.30 a net ton, compared with $2.07 in 1914 and 1915. The average value, at the mines, of the bituminous coal produced in 1916 was $1.32 a ton, compared with $1.13 in 1915 and $1.17 in 1914. Both of these figures are higher than those recorded in any other year from 1880 to 1916, a period for which comparable figures are available.

The number of men employed in the production of bituminous coal in 1916 was 561,102, an increase of 3646 compared with 1915. The number of men employed in the production of anthracite decreased from 176,552 in 1915 to 159,869 in 1916.

The average number of tons of bituminous coal produced per man per day in 1916 was 3.90, practically the same as in 1915. The large increase in production of bituminous coal with about the same number of men was obtained by working a greater number of days, the average being 230 days in 1916, compared with 203 in 1915. Every State except Iowa and Texas recorded an increase in the number of working days in 1916. The average annual output of anthracite per man was 548 net tons, and of bituminous coal 896 net tons, exceeding the record of any other year in the period 1890 to 1916, for which comparable figures are available.

Southern Farm Loans Now Highly Rated.

New Orleans, La., September 17.—[Special.]—"Louisiana and Mississippi are at the present time attracting more attention on the part of investors, particularly those most interested in mortgage loans on both city and rural properties in these two States, than at any other time in the history of the South," said James L. Wright, president of the Bankers' Loan & Securities Co. of this city, on his return last Saturday from a trip of several weeks to investment centers in the North and East.

"The wide fluctuations in what have heretofore been considered the most standard of listed stocks and bonds," continued Mr. Wright, "have caused many conservative investors, not previously educated on the stability and safety of Southern mortgage loans, to take an active interest in this class of securities for the first time, and as a result the Gulf States will be more bountifully supplied with funds for agricultural extensions, industrial development and other progressive enterprises than ever.

"The all-important questions of food production and the high cost of living, of course, have played an important part in this change of heart by the investors who have in the past confined themselves to the so-called high-grade stocks and bonds. The American farmer has become an important factor not only in American affairs, but in the settlement of the European war, and by reason of the enormous increase in the demand for every character of agricultural product, with consequent higher prices and greater net return to the farmer, his promise to pay, secured by first mortgage on improved farm lands, is today recognized as the best security offered to the American investor."

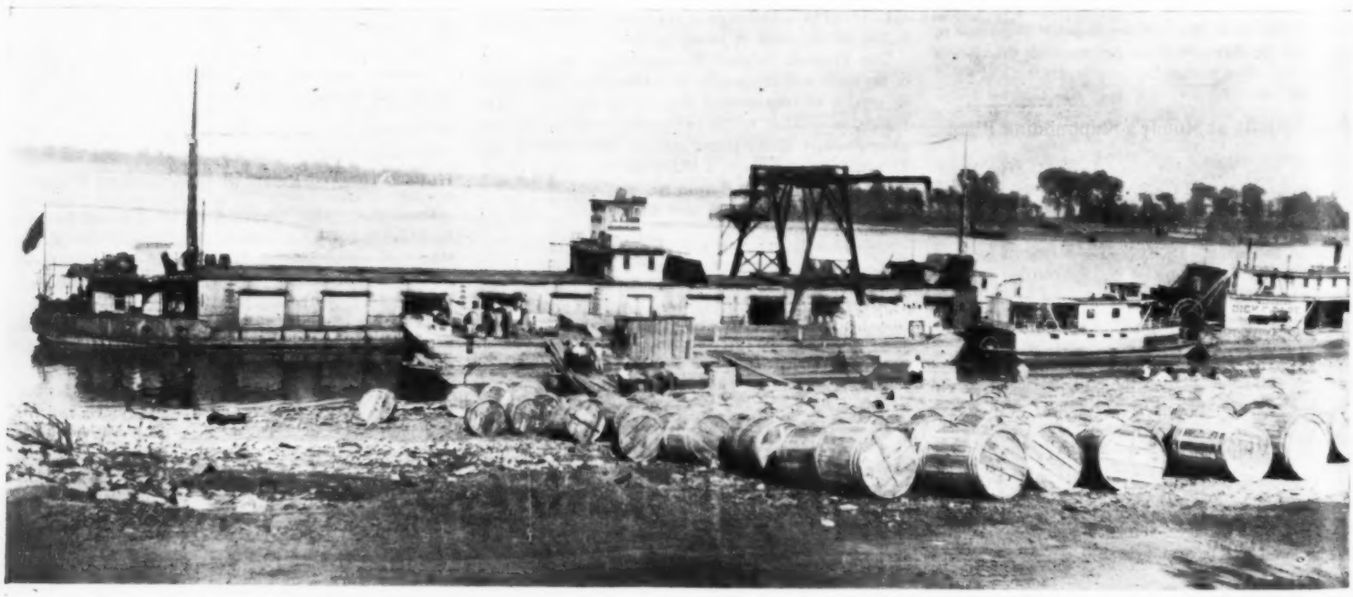
New Orleans' Additional Grain Elevators.

By December 1 the Port Commissioners of New Orleans expect to complete the second unit of public grain elevator previously fully described by the MANUFACTURERS RECORD. An investment of $700,000 is required for this second unit, and the original elevator cost $900,000, making a total of $1,600,000 for complete facilities to handle 2,622,000 bushels of grain. The second unit consists of 112 large bins and 91 interspace bins, the contractors being Janse Bros., Boomer, Crain & House, New Orleans, who are employing 800 men in day and night forces in the endeavor to complete construction by December. These elevators will load 100,000 bushels on ships in an hour.

The Cotton Movement.

In his report of September 14 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 45 days of the season was 879,568 bales, a decrease under the same period last year of 243,023 bales. The exports were 488,392 bales, a decrease of 110,207 bales. The takings were, by Northern spinners, 201,425 bales, an increase of 62,300 bales; by Southern spinners, 363,578 bales, an increase of 14,466 bales.

TOBACCO FOR EXPORT SHIPPED FROM KENTUCKY TO NEW ORLEANS BY WATER INSTEAD OF RAIL.



On account of shortage of railroad cars, J. M. Buckner, leaf-tobacco dealer and exporter of Louisville, Ky., has shipped some forty million pounds of tobacco by the Ohio and Mississippi rivers to New Orleans to the exclusion of the railway route. Scene herewith represents a cargo being loaded at Paducah, Ky., on an electrically-propelled steel barge, "Inco No. 1" of the Inland Navigation Co. This tobacco was shipped by river route to and alongside the vessel at New Orleans for export to France, and at 10 per cent. less than the railroad rate.

DENUDING NORTH CAROLINA'S MOUNTAIN RANGES.

Noble Forests of Balsam and Spruce Give Place to Treeless Wastes—Were Needed to Perpetuate Stream Flow for Water-Powers—Good Road Construction Noted.

Raleigh, N. C., September 10—[Special.]—The writer has just returned from a 10-day tour in the extreme northwestern section of North Carolina, having spent most of the time on the mighty northwestern flank of the Blue Ridge, at its highest point, the great stretch known as Black Mountain, the crowning peak of which is Mt. Mitchell, 6711 feet above sea level, nearby being Black Brother, only a few feet lower. Parts of this great stretch of the "Black" are now being "logged," both from that side and also the southern side, and, strange to say, there is a "Black Mountain railway" on each side, one going out from a station of that name not far from Asheville, and the other from Kona, a station on the Carolina, Clinchfield & Ohio Railway. The last-named road built and operated the branch from Kona, which is standard gauge, and from its outer end a logging road, also standard gauge, and goes far up the mighty "Black" to a point near its crest. This logging road is owned and operated by the Carolina Spruce Co., which has 6000 acres of timber there in one block. This is hauled down and sawed by two big band mills which that company owns.

This vast mountain forest, one of the greatest now surviving in America, much of it spruce, is being literally swept away. All the timber is taken, hard and soft, even the noble balsam, which grows on the higher levels more than a mile above the sea. Where the lumber company has operated the color of the balsam and the spruce, which gave to this particular range of mountains two names, the "Black" and the "Blue Ridge," passes forever, and instead of the deep colors there is a dirty and livid yellow-green. Fire sweeps along the mountain sides and then there is a ghastly scene. The spruce once cut does not renew itself, nor does the balsam, but the spruce is replaced by a dwarf cherry, little more than a bush, which the mountain people call the Peruvian cherry, and which they say is worthless.

One of the most unfortunate things that ever happened in North Carolina was the selling by the State of its mountain lands; certainly those at an altitude of more than 3000 feet above sea level. For most of this land, including the Black, it got at most something like 12½ cents per acre. Since the Civil War a vast body of timber on the Black, much of it spruce, which had been bought for a mere song, was sold for $2800 to North Carolinians, who sold it some five or six years ago for $160,000. The buyers, Northern people, immediately sold it for $300,000. Then the Carolina, Clinchfield & Ohio Railway built the branch road from Kona referred to, and the last purchaser sold the part of the land which was in spruce for $350,000 and has contracted to sell the land cut over to a native for $38,000.

It is one of the saddest stories in all the South of indifference and ignorance. It is a supreme necessity for the hydro-electric powers that these mountains be kept forested. They affect the Catawba and the Yadkin, two of the most important power streams in all the South, both of them vital to North Carolina. But the great forests are going fast, and when the lumbermen leave the once beautiful woodland, which was piled to the sky, tree above tree, it is stripped like a place of the dead. And the lumbermen care not. North Carolina's mountains and water-powers are nothing to them. So they keep on cutting forests here and there, wherever there is the precious spruce. The State bought in 1915 the tip or crest of Mt. Mitchell itself for $20,000 at the urgent request of Governor Craig, but this is only a tiny area compared to the vast one where the timber is being literally swept away.

On the side of the Celo Mountain, which is a flanker of Mt. Mitchell, there remain 900 acres of uncut spruce, the material which is so much needed for aeroplanes. It is in sight of Burnsville, and it is owned by the Ray heirs of that place.

The writer rode over most of Yancey county, and found that its principal roads have been graded well, the county having issued bonds for $150,000 for roads, but they have not been surfaced, and in January and February are practically impassable. The county is beautiful and fertile, and the valley lands easily bring $300 an acre. All through the mountain zone the crops are as good this year as were ever known, and there is a tremendous increase in the acreage of corn.

In Yancey county, with swift streams and numerous waterfalls, there is not the least utilization of hydro-electric power. The only plants of importance are the sawmills, which cut the logs from Black Mountain and ship the lumber to the North and West. All through that zone water-power for the larger uses is going to waste.

Work has begun on an extension of the East Tennessee & Western North Carolina Narrow Gauge Railway from Shull's Mills to Boone, about eight miles, and this will open Watauga county, not to North Carolina, but to the West and North. This railway extends from Johnson City, Tenn., by way of the Cranberry iron mines and Linville City, both in Avery county. It hauls immense quantities of iron ore and lumber, the company having extensive sawmills at Shull's Mills and a hydro-electric plant also.

The important Central Highway's last link in the west, that up the slope of the Blue Ridge, 20 miles east of Asheville, is so nearly completed that autos are going through in fine shape, and the event has just been celebrated. This was a reconstruction, for this highway was barely finished when the great flood of July 16, 1916, swept away great stretches of it. It is now better than before. State convicts will continue to be engaged on it until the end of the year, so as to make it perfect. United States, State, county and private money is being used, the United States putting in $10,000. The Government also gave a like amount from the national road fund for the rebuilding of another important highway, that through the Hickory Nut Gap, which was literally torn to pieces by last year's flood. The road supervisor says the 63 convicts employed will finish this highway by Christmas, and that it will be even better than before the flood.

North Carolina canning clubs, composed of women and girls, are doing wonderful work this season in the 60 counties where they are organized and where there are official club agents put in by the United States and the State, all under the direction of Mrs. Jane McKimmon of Raleigh. Last year there were 6000 club members, who put up 680,000 cans at a net profit of $88,000. This year 12,000 members are working, and have already put up 7,000,000 cans. There is a steady demand for their output, which is absolutely standardized and which sells readily at a figure several points above the market price. FRED A. OLDS.

Contract for $1,000,000 Electric Station.

General contract has been awarded for the construction of the $1,000,000 steam-driven electric-generating station which the Appalachian Power Co. of Bluefield, W. Va., recently announced its intention to build. C. W. Hancock & Son of Lynchburg, Va., are the contractors. This plant will be located on New River, between the Virginian and Norfolk & Western railways, near Glen Lyn, W. Va. It will have a capacity of 100,000 kilowatts, and the equipment of machinery will include an 18,750-kilowatt turbine, three 1200-horse-power boilers, etc. The plant will generate electricity for transmission throughout West Virginia for lighting and industrial purposes, and may furnish electric power for the proposed Virginian Railway electrification at Clark's Gap and the proposed extension of the Norfolk & Western Railway's electrification east of Bluefield.

Campaign to Reduce Coal Wastage.

Knoxville, Tenn., September 13—[Special.]—A fuel economy campaign of real and positive value has just been completed by Dean C. E. Ferris of the engineering department of the University of Tennessee; O. P. Hood, chief mechanical engineer of the United States Bureau of Mines; F. W. Fisher of the Knoxville Society of the National Society of Stationary Engineers, and C. C. Gilbert, secretary of the Tennessee Manufacturers' Association.

The campaign covered the week of September 3, and about a half dozen of the principal cities of the State were reached, public meetings being held in each, to which steam users, engineers and firemen, and coal operators especially, and the public generally were invited.

The idea of the campaign was suggested by Dean Ferris, who has many other similar enterprises to his success along mechanical, engineering and good roads co-operative plans.

Mr. Hood declared that somebody is going cold this winter for lack of coal, and that the coal famine was not local or national, but international. Many steam plants might close for lack of coal. He and other speakers told how the steam-producing value of coal could easily be increased 10 to 20 per cent., without a cent of expense, by cutting out leaks of valves, pipes, close-fitting doors, proper combustion above the fire bed and similar simple methods.

Dean Ferris stated that the greatest waste at the present time was in the medium-sized steam plants. He urged the wrapping of steam plants, and said that it was an unfailing sign of an efficient steam plant to see coal weighed and water measured.

Mississippi Inaugurates Helpful Plan for Community Improvement.

Jackson, Miss., September 15—[Special.]—The Mississippi Community Congress, the first organization of its kind in the United States, has completed all preliminary steps toward organization, and will be actively at work in a few weeks. It has as its purpose the welding together of every developmental force in the State, and aims to build up the State by building up rural communities, giving them better schools, churches and homes, better roads, better newspapers, improved systems of farming and of marketing their products.

The community is the unit. Next comes the county, and then the district congress, of which three have been formed in this State, one at Hattiesburg for South Mississippi, one at Grenada for North Mississippi and one at Clarksdale for the Delta. These three have recently been united in a State congress.

J. E. Ruff, district agricultural agent for South Mississippi, of the Federal Agricultural Department, originated the idea of the congress, after realizing the need for community development in this State, which is essentially rural in population and problems.

The first officers for the first community congress will be: President, R. S. Wilson, State director of agricultural extension work; vice-presidents, Miss Susie V. Powell, State director of home economics work; P. P. Garner, State commissioner of agriculture; J. A. Vandiver, founder of Pearl River county's model rural school and community center; secretary, C. A. Cobb, State director of boys' corn clubs.

It is expected that the plan will be taken up by other Southern States, as it is peculiarly fitted to the working out of their problems.

Atlantic Deeper Waterways Meeting.

The tenth annual meeting of the Atlantic Deeper Waterways Association will be held in Miami, Fla., from November 27 to December 1. An interesting program of business sessions and entertainments is being arranged, and an opportunity will be given the visiting delegates to see the waterway improvements underway in Miami and vicinity, where the city is constructing a public dock 1000 feet long, with a public terminal railroad, and a commodious channel and causeway is being built by Dade county. An access to these improvements is being provided by the Government channel and jetties connecting with the ocean.

Orangeburg Packing Plant Nearly Completed.

By November the Orangeburg (S. C.) Packing Co. expects to complete its $200,000 meat killing and packing plant. This enterprise includes a main building, 5 stories high and 150 feet long by 75 feet wide, of concrete and steel construction, with brick and tile curtain walls, equipped with general packing-house machinery costing $100,000. Its daily capacity is 300 hogs and 25 cattle, and it has been built in accordance with details heretofore stated by the MANUFACTURERS RECORD. The Packers' Architectural & Engineering Co. of Chicago and Wilson & Sompayrac of Columbia, S. C., were the architects, with W. A. Moore of Columbia as the construction engineer. The McKenzie Building Co. of Augusta, Ga., was the building contractor.

FLORIDA FARMING ON NEW BASIS.

Diversification in Crops and Cattle Raising Bringing Prosperity—Notable Progress Also in Development of Industries.

Jacksonville, Fla., September 14—[Special.]—The erection of a large grain elevator at Monticello, Fla., on the Atlantic Coast Line Railroad, by capitalists of that city seems destined to be of inestimable value to that entire section, as it will take care of the surplus crops of corn, beans and other cereals raised in the county and those immediately surrounding.

The movement to build grain elevators in Florida was started this summer by capitalists of Duval county, and the first large building to handle the cereal crops of that county is now nearing completion in Jacksonville. Immediately following the announcement of this elevator other cities and towns in the State laid plans for similar structures, and the grain elevator campaign took on proportions resembling that which occurred in Oklahoma, Kansas and Texas several years ago, when it was found necessary that suitable buildings be erected to house the cash grain crops.

The elevator in Monticello is being built by the Jefferson County Products Co., of which John Pasco of that city is president; H. K. Miller, vice-president, and Leo Majewski, secretary. The capital stock of the concern is placed at $25,000, and the elevator will have a capacity of 50,000 bushels of grain.

Farmers, stock raisers and business men of Florida are very optimistic over the erection of elevators throughout the State, inasmuch as it will eventually place Florida among the grain-producing States of the Union, and shows clearly that where in the past the farmers raised only as much corn and other cereals as was necessary for feeding purposes a part of the year, on account of the weevil they are making efforts to increase their acreage and have a surplus crop to be held for higher prices.

The old saying so common several years ago in Florida of "ten acres and freedom" seems to have died a natural death, as the Northern and Middle Western people who were fleeced by land sharks into believing that with 10 acres of land in Florida they could clear approximately $500 per acre each year have become wise, and during the past two years many of these investors have visited the State and seen for themselves that with the right kind of management one could live in contentment on a smaller tract of land than is usually farmed in the West, but larger than was being sold by the land sharks. In view of these visits Florida is blossoming forth in new splendor, with its cattle, corn, peanuts, sea-island cotton, tobacco, velvet beans and hogs. The 10-acre tracts are practically off the market, as there was no one to buy them, unless it happened to be a truck farmer near the larger cities, or one who went in for citrus fruits exclusively, and now daily many thousands of acres of land are being converted into Irish potato fields, sweet potato fields and cattle ranches, and the meat-packing plants are increasing their capacities in order to take care of the increased meat production.

As evidence of the enthusiasm with which the Florida farmer and stockman has entered into the tick eradication campaign, it may be pointed out that not a single instance has ever been noted where public or private dipping vats have been damaged, dynamited or burned by objectors to the movement, as has occurred in other Southern States, which also demonstrates that the Florida farmer is broad-minded and has been educated into the necessity of the work by the many newspapers in the State who have aided in the campaign.

Florida today is not the Florida of yesteryear. New ideas, new industries have taken hold of the city man and the farmer, with the result that the State is being filled with small by-product manufacturing plants, and the chambers of commerce are busy answering letters concerning the many possibilities of their respective sections. One other factor that has had a great deal to do with the agricultural and industrial revival in the State is the creation of a State Marketing Bureau in Jacksonville, which organization takes the place of the commission merchant, and will save the grower many thousands of dollars annually which was lost in the past by dealing with unscrupulous agents in other cities.

An increase of capital from $196,000 to $450,000 (an addition of $254,000) has been decided upon by the Roswell (Ga.) Manufacturing Co.

Increased Value of Coal in 1916.

Figures compiled by C. E. Lesher of the United States Geological Survey, Department of the Interior, show that the total value at the mines of the coal produced in 1916 was $867,125,638. Bituminous coal and lignite were valued at $665,116,077, an average of $1.32 per net ton, compared with $1.13 per ton in 1915, an increase of 19 cents, or less than 17 per cent. Pennsylvania anthracite was valued at $202,009,561, an average of $2.30 per net ton, compared with $2.07 per net ton in 1915, an increase of 23 cents, or 11 per cent.

The average value per net ton at the mines (exclusive of selling expense and stock shrinkage) of all anthracite shipped in 1916 of chestnut size was $3.51; of stove, $3.40, and of egg, $3.32. The average value of pea size was $2.10. The average values of the smaller sizes ranged from 67 cents per net ton for "boiler" to $1.31 for buckwheat No. 1.

AVERAGE VALUE PER NET TON OF COAL AT THE MINES, 1910 TO 1916.

State.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	Advance in 1916.
Alabama	$1.26	$1.27	$1.29	$1.31	$1.34	$1.28	$1.37	$0.09
Arkansas	1.56	1.61	1.71	1.76	1.73	1.79	1.92	.13
Colorado	1.42	1.45	1.49	1.52	1.66	1.58	1.62	.04
Illinois	1.14	1.11	1.17	1.14	1.12	1.10	1.25	.15
Indiana	1.13	1.08	1.14	1.11	1.10	1.10	1.27	.17
Iowa	1.75	1.73	1.80	1.79	1.79	1.78	1.86	.08
Kansas	1.61	1.53	1.62	1.67	1.64	1.66	1.78	.12
Kentucky	.99	.99	1.02	1.05	1.02	1.01	1.19	.18
Maryland	1.12	1.11	1.18	1.24	1.27	1.28	1.56	.28
Michigan	1.91	1.78	1.99	1.99	1.99	2.05	2.25	.20
Missouri	1.79	1.72	1.76	1.73	1.73	1.73	1.91	.18
Montana	1.82	1.79	1.82	1.74	1.75	1.62	1.73	.11
New Mexico	1.39	1.44	1.42	1.46	1.61	1.44	1.47	.03
North Dakota	1.49	1.43	1.53	1.52	1.52	1.45	1.49	.04
Ohio	1.05	1.03	1.07	1.10	1.13	1.08	1.33	.25
Oklahoma	2.22	2.05	2.14	2.05	2.06	2.01	2.09	.08
Pennsylvania (bituminous)	1.02	1.01	1.05	1.11	1.07	1.06	1.30	.24
Tennessee	1.11	1.12	1.14	1.14	1.14	1.13	1.23	.10
Texas	1.67	1.66	1.67	1.77	1.69	1.65	1.56	*.09
Utah	1.68	1.69	1.67	1.65	1.59	1.58	1.62	.04
Virginia	.90	.91	.96	1.01	1.01	.98	1.06	.08
Washington	2.50	2.29	2.39	2.38	2.20	2.17	2.27	.10
West Virginia	.92	.90	.94	1.01	.99	.97	1.18	.21
Wyoming	1.55	1.56	1.58	1.56	1.55	1.46	1.55	.09
Total bituminous	$1.12	$1.11	$1.15	$1.18	$1.17	$1.13	$1.32	$0.19
Pennsylvania (anthracite)	1.90	1.94	2.11	2.13	2.07	2.07	2.30	.23

*Decline.

Statesville Would Like to Have Packing Plant.

C. V. HENKEL, Vice-President Henkel-Craig Livestock Co., Statesville, N. C.

Our people would like to see a packing plant established here, and would take considerable stock if the right party would come here and organize such a plant.

Government's Report on Coal Production.

The Government's weekly report on the production of bituminous coal and the causes of loss of working time, compiled by the Geological Survey, Department of the Interior, September 15, 1917, notes that continued recovery from the depression of mid-August marked the course of the ratio of tonnage produced to full-time capacity during the week ended September 1. Mines representing more than one-third of the output of the country reported a production amounting to 72 per cent. of their full-time capacity as limited by the labor force at present available. As compared with 68.5, the ratio for the preceding week, this was a substantial increase, but was below the record of 78 per cent. reached early in July. Improvement was most marked in Illinois, where the return of striking miners to work brought up the index for that State to 76 per cent., the highest point attained since July. Indiana and Western Pennsylvania also recorded increases. The strike in Eastern Kentucky and Tennessee continued, restricting tonnage to barely one-tenth of the full-time capacity.

PERCENTAGE OF PRESENT FULL-TIME OUTPUT PRODUCED IN CERTAIN STATES BY ALL OPERATORS MAKING WEEKLY REPORTS.

State.	Week Ended Aug. 4	Aug. 11	Aug. 18	Aug. 25	Sept. 1
Iowa	87.5	82.6	85.3	86.3	81.4
Illinois	72.6	70.3	54.8	69.3	76.0
Indiana	69.5	63.2	71.8	69.3	72.9
Ohio	73.7	70.2	73.2	68.6	68.6
Western Pa.	78.1	78.2	69.4	75.2	76.9
Winding Gulf region, West Virginia	70.5	77.1	83.0	88.7	87.8
Southwestern Va.	94.9	94.0	93.9	94.1	91.7
Eastern Kentucky and Tennessee	68.6	74.2	10.8	4.7	10.3
Alabama	88.4	88.8	85.9	86.1	83.6
Kansas and Missouri	69.4	64.9	72.2	76.2	79.4
Oklahoma and Ark.	63.4	66.0	65.5	70.0	63.0
Total reporting from beginning	73.0	71.8	62.5	68.5	72.0

Shipments of coal on 17 of the leading roads carrying soft coal showed a decrease of 8 per cent. in the week ended September 8 compared with the week ended September 1. This decrease was largely due to the more or less general observance of Monday, September 3, Labor Day, as a holiday. In Indiana, Ohio and Pennsylvania, union States, little or no coal was loaded on Labor Day, and these States show the largest decrease. Because both five and six-day weeks are included in these figures it is not possible to compare the average daily output in the week of the 8th with preceding weeks. It would appear, however, that the rate of production in the week under discussion was about that for the month of August.

CARLOADS OF COAL ORIGINATING ON PRINCIPAL COAL-CARRYING ROADS.

District.	Week Ended Aug. 11	Aug. 18	Aug. 25	Sept. 1	Sept. 8
Ala., Eastern Ky. and Eastern Tenn.	8,275	6,755	5,368	5,545*	5,603
Ill., Ind. and Western Ky.	20,243	20,927	22,423	22,329*	19,612
Pa. and Ohio	46,966	44,350	47,058	47,622	41,886
W. Va. and Va. smokeless	12,686	13,258	14,021	13,549*	11,856
W. Va. and Va. high volatile	19,621	18,897	18,799	18,055*	18,684
West of the Mississippi	1,858	1,700	1,762	1,923	1,664
Total	109,649	105,887	109,431	109,023*	99,305

*Revised from last report by inclusion of late returns.

Of the causes of lost working time, car shortage occasioned the largest loss of tonnage during the week of September 1. For all mines reporting, the per cent. of full-time capacity lost through an inadequate car supply remained 10.3, the same figure as that for the week before. The cessation of the Illinois strikes reduced the losses attributable to labor from 10.9 to 6.9 per cent. of the full-time capacity of all mines reporting, in spite of the fact that in Alabama an increase from 7.4 to 12.9 per cent. in the losses due to labor trouble was reported. Car shortage remained acute in Indiana and Ohio, though the railroads effected some improvement over the showing of the preceding week.

Mines in Oklahoma and in the Brazil block coal district of Indiana were shut down during the week, the reason reported being inability to operate under the present scale of prices. Losses attributed to this cause have been included in the column "no market."

Beehive coke loaded by the principal coke carriers of Pennsylvania and Northern West Virginia amounted to 13,428 cars during the week ended September 8, a decrease of 1423 cars as compared with the preceding week. Because of the observance of Labor Day in some plants and not in others, it is impossible to state whether the average daily production rose or declined.

An improved supply of both coal and coke cars during the week of September 8 resulted in increasing the ratio of tonnage produced to rated capacity in the beehive coke districts of Connellsville, Greensburg and Latrobe. Seventy-three per cent. of the rated coke capacity of the plants reporting was realized in actual output, as compared with 69.1 per cent. during the preceding week. While the car supply improved, shortage of labor became more acute in both yard and mine.

PRODUCTION OF BEEHIVE COKE AND OF COAL, WITH CAUSES OF LOST TIME, AS REPORTED BY OPERATORS IN THE CONNELLSVILLE, GREENSBURG AND LATROBE DISTRICTS, PENNSYLVANIA.

	Coke. Week Sept. 8. Tons (coke).	Per cent.	Week Sept. 1. Per cent.	Coal for Shipment. Week Sept. 8. Tons (coal).	Per cent.	Week Sept. 1. Per cent.	Total Coal Shipped and Made Into Coke. Week Sept. 8. Tons (coal).	Per cent.	Week Sept. 1. Per cent.
Capacity, based on railroad rating	416,885	100.0	100.0	392,800	100.0	100.0	1,018,128	100.0	100.0
Production	304,290	73.0	69.1	149,900	38.2	36.6	606,335	59.6	56.3
Losses:									
All causes	112,595	27.0	30.9	242,900	61.8	63.4	411,793	40.4	43.7
No coal cars	.....	.....	.....	40,850	10.4	16.2	40,850	4.0	6.4
No coke cars	19,005	4.6	7.6	.....	.....	.....	28,508	2.8	4.6
Labor shortage:									
Mine	6,685	1.6	3.6	199,950	50.8	47.0	209,978	20.6	20.7
Yard	74,935	18.0	16.8	.....	.....	.....	112,402	11.0	10.2
Strike	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plant disability	560	0.1	0.1	200	0.1	0.2	1,040	0.1	0.1
All other causes	11,410	2.7	2.8	1,900	0.5	0.0	19,015	1.9	1.7

America's Relation to the World War.

[Birmingham Age-Herald.]

Everybody in the United States should know by this time what we are fighting for. Our position has been stated clearly by members of the administration and our motives compellingly set forth by President Wilson over and over again. Yet many people have a way of forgetting, or not fully realizing the main issues involved.

This country is at war with Germany for humanity's sake, and more, it is sending its men to the trenches to battle for the very existence of the nation. Should the entente allies be defeated in this terrific struggle, America would be invaded by the Teutonic hosts. Our great cities would be in ruins and atrocities perpetrated in Belgium would be repeated here.

No matter how often the administration has explained the cause of America's action, additional contributors to the literature of the whys and wherefores will always be in order. Such a contribution is found in a pamphlet recently published by the MANUFACTURERS RECORD, entitled "America's Relation to the World War—Shall Our Nation Live or Perish?" It is made of articles written by Richard H. Edmonds, the editor, and printed in his influential journal.

Mr. Edmonds was keyed up for war long before it was declared. Many conservative men thought he was unduly impatient with the administration because President Wilson did not take up a preparedness program a year before he did. With prophetic vision Mr. Edmonds not only saw the break with Germany coming, but the United States overrun with German spies and diabolical plots hatched under the Government's very nose. If numberless loyal Americans dissented from some of Mr. Edmonds' views three years ago, they agree with them now.

Early in the war the MANUFACTURERS RECORD urged the Government to suppress the traitors, open and secret alike. And more recently it warned America not to be deceived by Germany's peace talk.

Mr. Edmonds was a virile writer in his younger days, but in this publication he seems to have reached his high-water mark. His pamphlet deserves a wide circulation. It will undoubtedly quicken the patriotism of those citizens in some parts of the country who have not fully realized the necessity of the selective draft.

Negroes in Recent Exodus Returning to Work in South.

Jackson, Miss., September 15—[Special.]—Cottonseed-oil mills have begun what promises to be one of the most prosperous seasons in the history of the industry, despite the high prices being paid for the raw material. The market opened at $55 a ton, with the supply good. Indications are that the greater part of the mills will be forced to run double shifts to accommodate their business.

Recent unfavorable weather is expected to raise the price to at least $60 a ton, and students of market conditions would not be surprised to see $75 a ton paid for seed before the season has gone much further. This would break all records, and with the prevailing prices of cotton would put additional fortunes into the hands of Mississippi farmers.

Mill operators were surprised to find when the season opened that labor was plentiful. Their skilled negro operatives, hundreds of whom went North last fall and winter and during the spring, have come back, and they say they expect to stick to the South. They do not look for any labor scarcity during the busy season ahead.

Big Menhaden Plant for Pensacola.

Fertilizer and oil from menhaden will be manufactured at Pensacola, Fla., by the Pensacola Fertilizer & Oil Co., which New York investors have organized. This company is capitalized at $250,000, and its officers are: F. W. Miller, president; M. P. McGrath, vice-president; J. A. Baker, secretary-treasurer; C. H. Munger, representative; all of 21 Spruce street, New York.

The plans provide for constructing a factory building, a scrap shed and two commissary buildings, with the installation of a complete equipment of machinery for manufacturing oil and fertilizer from fish scrap. Mr. Munger is prepared to negotiate for the mechanical equipment, which will include two 150-horse-power boilers, three engines, electric-light plant, oil and water pumps, presses, corkers, dryers, etc.

Securities in National Banks Increase 21 Per Cent.

An aggregate of $2,787,000,000 of stocks, bonds and other securities are held by the national banks in the United States, according to the statement of the Comptroller of the Currency, just issued, concerning the report of the banks' condition on June 20 of this year. This is an increase of $489,000,000, or 21 per cent., as compared with the total of securities held by the national banks in the summer of last year. The aggregate amounts to 17.26 per cent. of the total resources of the banks.

A consideration of the different kinds of bonds held by these institutions is interesting. For instance, the foregoing includes $905,000,000 of United States bonds and certificates of indebtedness, increase $174,000,000 as compared with last year; $284,000,00 of foreign government bonds, increase $167,000,000; $68,000,000 of other foreign bonds, increase $28,000,000; $467,000,000 of railroad bonds, no increase; $295,000,000 of other public service corporations bonds, increase $21,000,000; $315,000,000 of State and other so-called "municipal" bonds, increase $37,000,000; $362,000,000 of other bonds, increase $60,000,000; $50,000,000 of claims, warrants, judgments, etc., increase about $1,333,000, and $39,000,000 of stocks (taken for debts previously contracted, etc.), this amount being slightly less than last year.

Increased Lumber Production.

Statistics just compiled by the National Lumber Manufacturers' Association show that during the 12 months ending July 31 the mills reporting to the association cut 15,602,000,000 feet of lumber and shipped 15,741,000,000 feet, or 8.9 per cent. more than production. Shipments the first seven months of this year were 7.7 per cent. more than last year, with no increase in cut. During July this year 732 mills in all parts of the country and operating in all kinds of timber cut 1,389,000,000 feet and shipped 1,566,000,000 feet, or 12.7 per cent. more than production. The cut in July this year was 1.3 per cent. less than July last year, with shipments 19.6 per cent. greater. During four weeks of August 320 Southern and Western mills have cut 606,000,000 feet of lumber, shipped 778,000,000 feet and accepted orders for 613,000,000 feet.

Manganese Production Advancing in Brazil.

[U. S. Consul-General Alfred L. M. Gottschalk, Rio de Janeiro, June 3.]

The exports of manganese ore from Brazil in 1914 amounted to 183,630 tons, representing a value of $1,380,453. During 1915 there were 288,671 tons exported, and their value was $2,632,427. The consular export returns for 1916 show a very large increase over the figures for the preceding two years—reaching 503,120 tons, valued at $7,080,954. This exceptional development in the trade is due to the greatly increased demand for manganese in the United States, where 80 per cent. or more of the supply is now of Brazilian origin, and to the almost complete closure of other sources of supply by the war.

Certain new Brazilian mines, hitherto unknown or unexploited, have been opened for operation under the stress of the increased demand. These operations have been chiefly in the State of Minas Geraes, but it is to be observed that the State of Bahia seems also in time likely to become a large producer of manganese ore.

A newly formed American company has begun to export manganese ore from the city of Bahia. This company claims to have purchased recently four mines in the State of Bahia. The largest of these is in the municipality of Bom-Fim, northwest of the city of Bahia. It is accessible by the Central Railway of Brazil, but has not yet been explored to any extent. Three other mines are near the town of Nazareth, southwest of Bahia. They have no railway outlets at present, and such ore as is now mined must be taken by lighters to the Bay of Bahia and there placed aboard ship. These properties are said to be smaller than the one at Bom-Fim.

Only two ships have been loaded at Bahia with ore from these mines, the steamer Suffolk taking 4000 tons in the month of May and the Peter H. Crowell 4300 tons in April. Both vessels are of American register. It is claimed that much ore is in sight at all of these mines, and American engineers who have been prospecting there are said to have reported very favorably upon them.

The local agents of the American company that has been mentioned estimate that with better railway facilities from 15,000 to 20,000 tons of manganese ore could be shipped monthly from these mines, with Bahia as the point of general export. They claim, however, that even had they enough bottoms to carry 24,000 tons of ore monthly, the lack of sufficient railway facilities to carry the mineral to tidewater is the important drawback. This is a general condition, and applies to the State of Minas Geraes as well. In fact, it is the prevailing belief among technical men that the entire manganese problem of Brazil, and, even further, the problem of disposing of its vast natural resources, is one of communications by highways in many interior districts and from the commercial centers of those districts by rail to tidewater.

Progressing With $1,250,000 Development.

Developments are progressing upon the new Welch (W. Va.) coal development of the Solvay Collieries Co., which has its general offices at Syracuse, N. Y. This development will be known as the Exeter Colliery, requiring a 40x13-foot hoist shaft, with a 26x14-foot air shaft, and the construction of these has begun. Steam-shovel gradings are about half completed for railway sidings, and propositions are now being considered for hoist, tipple and power equipment. In about eight months this new development is expected to be complete, and the estimated cost of the installation is $1,250,000. C. C. Morfit is the company's general superintendent at Welch.

Price-Fixing a Dangerous Business.

J. I. MCCANTS, Sales Manager Standard Portland Cement Co., Birmingham, Ala.

I have recently noted some of your splendid editorials with regard to price-fixing. In my opinion, price-fixing is indeed a dangerous business at this time, unless due consideration is given to each commodity entering into the manufacture or production of the commodity or product on which prices are fixed. For example, the greater part of the increased cost of mining coal is due to an increased price of supplies and labor. These fixed charges may grow heavier, while the producer cannot increase his selling price.

If the selling price on any given commodity is fixed, then the selling price on each commodity entering into the manufacture or production of this commodity should be investigated and a price fixed to correspond with the price fixed on the commodity affected. The only fair and just way to fix prices is to make the operation retroactive.

Aided in Establishment of Industry.

C. A. PRIM, Bonifay Milling Co., Bonifay, Fla.

About two and a half years ago you aided me in getting in touch with the manufacturers of rice mills and other machinery. As a result we are now operating a rice mill and our section is producing a considerable amount of upland rice.

In order to encourage and further the production of this crop we desire to get in touch with manufacturers of paper who use rice straw. We will greatly appreciate it if you will furnish us a list of the names. In so doing it might result in rice being even a more profitable crop, as the straw, too, could be converted into money.

The Iron, Steel and Metal Trades

ALLIES ENTER STEEL MARKET ONCE MORE.

Announcement That British Government Has Entered the American Market for Munitions Creates Great Surprise in Steel Circles—Conditions Are Otherwise Uninteresting—Pig-Iron Shipments to Canada Halted.

New York, September 17—[Special.]—One of the most important announcements that has made its appearance in the steel trade for many months, and one which may have far-reaching effect upon market conditions, was that made last week to the effect that the British Government had entered the American steel market once more for shells and other munitions. This announcement, coming as it does after the one made some months ago that shell requirements and others of a kindred nature for Great Britain and France would be fully taken care of abroad has created the greatest surprise and interest in steel circles here. It is pointed out as being significant in several ways. In the first place, it comes at a time when the steel market shows very evident symptoms of sagging, and, what is far more important, it indicates that the war will be continued, in all probability, for at least one more year.

The opinion among the few who know of the order just placed by the British Government for 3,000,000 six-inch shells at $40 each, or $120,000,000, who were interviewed by the writer is that these are being placed here in anticipation of the greatest offensive to be launched on all the European battle fronts early next year, or at the time when the American armies will be in a position to be of material help. Delivery is to be made within a period of six months, and this means delivery by the end of next March.

In an interview with a prominent steel producer, when asked as to his views relative to the re-entrance of our Allies into the steel market here, he said: "England and France are well able to take care of their shell and other munitions requirements for an ordinary campaign. But the one next year will undoubtedly be on a scale never before attempted. Indications are now that the troops will go into winter quarters on approximately the lines now held, with the possible exception of the eastern front in Russia. The artillery requirements, even in the terrific assaults of the current year, were small compared with the demands that will accompany the great offensive next year. The Allies know this, and all thoughts during the next winter are going to be bent toward thorough preparation for what we hope will be the final year of conflict. The fact that the Allies have come into the market here on an immense scale again for shells and other munitions, therefore, to me is not surprising. It simply means preparations for the beginning of the end and the ensuring of a condition that will permit of no slip-up."

The order for the six-inch shells will probably be split up among a number of companies, and those who were the most successful during the first three years of war will probably receive the bulk of the business. Other orders are expected to follow for 18-pounder, 4, 5, 8, 9.2 and 12-inch shells.

The steel trade is still waiting action on prices by Washington to ending a stagnation of more than two months and developing a price basis on which business can continue. Buyers of steel at the present time appear to be as much afraid to place contracts for forward delivery as they were last November to make them. As far as the production of steel is concerned, it continues to be materially less than capacity, although the situation as a whole is a trifle better than the average last month. The hot weather, which was one factor, is now out of the way, and labor troubles have also disappeared for the time being. At best, however, there are hardly enough men for maximum output all along the line. The progress of the season, together with the general change by which there is less building work going on, may operate to improve the labor supply at the mills.

The sheet market, generally speaking, was devoid of incident. The mills were still busy, but some of them are approaching the time when they will require additional business to maintain full operations. Deliveries are now promised by a few mills within three weeks, against a six weeks' promise of not long ago. Some of the producers, however, are filled to the end of the year, while the leading interest will require all of January to complete its second half obligations, chiefly by reason of its having received a large tonnage of Government business after it had sold to the general trade its remaining output for the year. Many automobile manufacturers were sounding the market last week for the first half of next year.

It is claimed by the billet manufacturers that he decline in this product has been on resale material, and is not indicative of the attitude of producers. Offerings of merchant steel bars on contract at less than the former minimum quotation of 4½ cents have become common enough to be taken into reckoning. There are rumors of 3½ cents having been done on contracts for next year, but of course no buyer would take hold for next year at any price at this time. Thus the general steel price readjustment is making progress. Enough has been mentioned in these columns to show that it is a general readjustment, but it is equally clear that what has occurred represents only a beginning.

If there was a broad market for pig-iron there would have been more declines to date than have been recorded. It has been a case of furnaces adhering to their former quotations except when some incident, accident or chance demand developed lower prices. The furnaces realize that their prices are purely nominal, and that business would not be stimulated at this time by lower quotations. There are no consumers waiting to take hold. Buyers are evidently holding off in hopes of action by the Government in fixing prices, and have been using up large amounts for which orders were placed earlier in the year.

Shipments of pig-iron to Canada came to an abrupt end last week. The embargo placed by the Government went into effect over night. The only notification was sent to the railroads, which have refused to accept shipments. Shippers have since found it impossible to satisfy the Government requirements as to export licenses for iron. The red tape mill at Washington is in full blast. The forms for export licenses have been frequently changed, and now the prescribed form calls for the answer of every conceivable question that might have anything to do with the matter. The application must be signed by the shipper, the consumer, the Washington authorities and the Canadian officials, and the document must travel several hundred miles before being finally attached to the bill of lading. Even then if the shipment is not made all at once, additional applications must be sent around the circle.

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal)	$75.00—	
Open-hearth billets (nominal.)	75.00—	
Open-hearth sheet bars	85.00—	
Bessemer sheet bars (nominal)	85.00—	
Forging billets	115.00—	$125.00
Wire rods	90.00—	
Rails	75.00—	80.00

(Dealers' average buying prices for pound lots.)

Tank plates	$8.00—	
Refined iron bars	4.75—	
Steel hoops	5.00—	$5.50
Cold-rolled strip steel	9.00—	9.50
Sheets, No. 28 gauge	8.00—	9.00
Galvanized sheets	10.00—	11.00
Blue annealed sheets	8.00—	8.50
Wire nails	4.00—	
Cut nails	4.00—	
Plain fence wire, base	3.95—	
Barb wire, galvanized	4.65—	
Railroad spikes	5.00—	7.50

PIG-IRON.

Bessemer, Pittsburgh	$52.95—	
No. 2 foundry	50.95—	
Basic, valley	48.95—	
Malleable	53.95—	
Basic, Philadelphia	48.75—	$50.75
No. 2 foundry, Northern	52.75—	55.75
Low phosphorus	85.00—	
No. 2 foundry, Buffalo	52.00—	56.00
No. 2 South, Cincinnati	49.90—	52.90
Northern foundry, No. 2 Cleveland	54.30—	55.30
Foundry, Chicago furnace	55.00—	
Malleable, Chicago furnace	55.00—	
No. 2 foundry, New York	52.70—	55.70
No. 2 plain, New York	52.20—	55.20

SCRAP-IRON AND STEEL.

Heavy melting steel	$33.00—	$35.00
Bundled sheet	23.00—	24.00
Rerolled rails	38.00—	39.00
Old iron car wheels	31.00—	32.00
Old steel wheels	35.00—	36.00
Stove plate	19.00—	20.00
Steel car axles	45.00—	46.00
Iron car axles	44.00—	45.00
Low phosphorus	42.00—	44.00
Heavy cast	27.00—	28.00
No. 1 cast scrap	30.00—	31.00
No. 1 railroad wrought	31.00—	32.00
Cast borings	21.00—	22.00
Machine-shop turnings	20.50—	21.50
Railroad malleable	26.00—	27.00

Reducing Iron Output in War Time a National Calamity.

The Matthew Addy Company's market report for September 15 says:

"The usual laws of supply and demand are not just now controlling the iron market. These laws have not been repealed, but for the present all eyes are on Washington waiting for an announcement as to the Government's intentions as regards price regulation. Whatever the Government directs will be done. But evidently the Government is not, in the case of iron, going to take the hasty action that was taken in the matter of coal. Iron is a much more complicated proposition; many more factors enter into its production, and there must be a consideration of the costs of ore, lime rock, labor and coke before any just estimate of the iron situation can be reached. The greatest trouble will necessarily come from coke. That from its normal level has advanced from seven to ten times, and the tremendous advances in coke have been the main factor in greatly swelling the costs of making iron. Anything at the present time which would reduce the output of iron would be a national calamity. Iron in war times is the beginning and the end of armaments. That the Government will act wisely and well and that its action will be upheld in a spirit of self-sacrificing patriotism is certain.

"But with this Government move impending new business in pig-iron is of small proportions. In August the total tonnage of sales was smaller than in any month since the war began, and September apparently will be even worse. In the meantime, of course, iron is being consumed as fast as produced. Most furnaces are sold up until July 1, 1918. A few have a little iron left for this year, but it is a mere drop in the bucket. Demands for heavier shipments on old orders are imperious.

"Consumers are having a desperate time in getting raw materials, and the situation in this respect is not encouraging. The probabilities are that coal, coke and iron will be presently in even shorter supply than is now the case. But even with this state of affairs, which ordinarily would mean a scramble for every new ton obtainable, little is being done. Consumers feel sure that Government price regulation means a reduction in price, and acting on that theory there is an almost unanimous disposition to wait. This waiting period means that stocks of iron in foundry yards are being depleted, and when the present uncertainty as regards price is removed there will be another furious rush to buy iron—everybody trying to crowd through the door at the same time."

ALLIES BUY 75,000,000 POUNDS OF COPPER.

Copper Committee Confirms Rumors by Formal Announcement—Compromise Price to Be Fixed by Government—Lead Dull—Tin Steady—Spelter Active.

New York, September 17—[Special.]—Rumors that have been circulating Wall Street and metal circles since a week ago last Thursday, and that were denied on Tuesday of last week, that the Allies had purchased 75,000,000 pounds of electrolytic copper at a flat rate of 25 cents a pound, were confirmed on Wednesday by a formal announcement by the Copper Committee of the War Industries Board. This is taken as an indication in the trade that the Government price will be fixed at the rate of the foreign purchase, or, in other words, 2½ to 5 cents higher than many in the trade had been led to expect. A conference was also held on Wednesday with representatives of the copper interests of the country, in which an effort was made to bring about a compromise price on the red metal. The cost of production, as obtained by the Federal Trade Commission, was the basis of the conference. The price will shortly be announced.

Information obtained from many manufacturing centers tend to show that consumers are approaching close to the end of their supplies and must make further purchases in the immediate future. They are doing an immense volume of business, and are understood to be figuring on new contracts that will occupy the full capacity of their plants for a long time to come.

The entire copper market was in a very sensitive condition last week by reason of the opinion generally held that the Government price will not be less than 25 cents a pound, and that domestic consumers will have

to pay a higher price, how much higher depending upon the demand that will develop when once the price has been fixed. Also that the price-fixing will put a peg into any chance of lower prices for a long time to come, perhaps as long as the war lasts, for it is figured that when the Government fixes the price it will, like the case of coal and wheat, be one it considers fair and necessary for a large output, and that the law of supply and demand will, for the time being, have little effect in making prices on these commodities.

The lead market was dull and weak, and as second hands and some of the independent producers started cutting the American Smelting & Refining Co.'s price to try to make sales, buyers were unsettled and afraid to act, feeling that another reduction in the leading interests' price is likely to be made at any moment. The decline in price is said not to have been due to any increase in the output of the metal. It is learned that the recessions have mainly been forced by the fear that paint manufacturers will give up permanently the use of lead after having overcome the deficiencies of lead substitutes. Zinc is being used in increasing volumes for paint. In order to retain the trade of paint makers the lead producers have seen fit to lower the price. This is one case where high prices really threatened to harm the trade formerly enjoyed by certain commodities.

The spelter market was quite active, with a fair amount of inquiry from galvanizers for September and October prime. The present market is one in which the price for large quantities is higher than for small ones, and should the Government, either for its own account or for our Allies, wish to place an order for 25,000 tons, the bids that would be tendered would make an interesting exhibition. But should the Government, or any large buyers, show a disposition to act, it is not supposed the efforts to hold the market down below the average cost of production would be continued, but rather that the program would then be changed so as to make a better market to sell on.

It is said that the recent decline in the price of spelter has been due to pressure exerted by holders of accumulated stocks in a market wherein buyers were conspicuous by their absence. The Government report respecting the situation at the mid-year showed an increase in stocks, but that revealed only a part of the story, for those figures pertained only to stocks at smelters' works. Besides such stocks, there were reasons to believe that there were important accumulations in warehouses, and furthermore, it was a fact that certain important consumers had large supplies of unused spelter in their yards.

The feature of the tin market was the scarcity or close concentration of spot Straits. While business in tin was fair, the demand was for other grades, or for Straits in forward position. Late in the week an improved condition was shown in the spot Straits situation. There was an active demand last week for Chinese No. 1, with the result that all lots obtainable at below 55.50 cents have been cleaned up. It is now difficult to buy even at that figure, and inquiries have been heard of for September, October and November delivery against which there is practically nothing offering. Tin arrivals to date total 5400 tons from the Straits, and stocks afloat are 700 tons.

THE WEEK'S PRICES.

	Copper.		Lead.			
	Lake.	Electrolytic.	A. S. & R. C.	Independent.	Spelter.	Tin.
Monday, Sept. 10	27.00—28.00	26.25 —26.50	10.00 Nom.	9.87½	8.05 —	61.25
Tuesday, Sept. 11	27.00—28.00	26.37½—26.62½	10.00 Nom.	9.87½	8.05 —8.17½	61.50
Wednesday, Sept. 12	27.00—27.75	26.50 —26.75	10.00 Nom.	9.87½	8.17½—8.30	62.00
Thursday, Sept. 13	27.00—28.00	26.75 —27.00	10.00 Nom.	9.87½	8.25 —8.50	62.50
Friday, Sept. 14	27.00—28.00	26.75 —27.00	10.00 Nom.	9.87½	8.25 —8.50	62.75

PRICES OF SOUTHERN IRON REMAIN STEADY.

No Stagnation Expected by Birmingham Producers, no Matter What Government Does in Way of Price-Fixing—No New Coke Contracts Accepted for This Year's Delivery—Drooping Market in Old Material.

Birmingham, Ala., September 17—[Special.]—But little change is noted in the Southern pig-iron market, except as to increased complaint about delays in deliveries. Manufacturers of pig-iron in this section feel confident now that even if the Government fixes the price of iron down, that when control of the industry is put into effect consumers who have contracts placed will leave them placed, fearing that there might be trouble in getting new orders accepted. There is a belief expressed that no matter what the Government does, enough business will remain on the books to keep furnaces busy for some time to come. A few sales are still being recorded in this district. It is announced that there is very little iron left for delivery this year, and not a very great amount on the probable make for the first three months of the coming year. The make is not steady, deliveries of raw material, ore and coke in particular, and also coal, not being regular. There is a probability of the production in Alabama in September showing a falling off in comparison with the make of the previous month.

The presence in the district of representatives of some of the larger consumers of iron, who placed orders here several months ago, indicates the need for the product. One of these representatives stated that his concern, melting iron in Pennsylvania, had 7500 tons due from one of the Alabama manufacturers during the months of June, July and August, and that there has been much delay on the business. In fact, it was necessary to have someone right at the point of production to see that there was shipment on the orders. Reports will not down that if furnace companies in this district would make concessions on quotations published there would be a large tonnage placed. Manufacturers assert again that with the large business booked it is not necessary to sacrifice iron for a while yet. The quotations are still on a $50 basis for this year's delivery, No. 2 foundry and basic, and $48 for next year's delivery. The accumulated stocks of iron in this State will hardly aggregate 100,000 tons. While there has been no reiteration of resale iron under $46 per ton, it is admitted that thousands of tons of iron from this section are stacked up at various ports bound for Europe with shiproom very scarce. The purchasers have been asked if there is a disposition to sell, but unfavorable replies are said to have been made. Some iron bound for Norway is said to be halted, among other export orders, and, like that which was intended for Sweden, it will be held back.

Very little is being given out as to the Government business being placed in this district, whether with the furnace companies or with foundries, machine shops or what not. The big order that was received in this district last year from the British Government, the order being for 75,000 tons of basic iron, has been reduced to less than 30,000 tons, and shipments are only halted by the accommodations that are to be offered for cross-ocean trips. The Woodward Iron Co. has great quantities of iron to deliver on contracts that have been in hand for several months now, and some of the worst delays in deliveries are put up to this corporation.

Special brand and special analysis irons are still commanding premiums, and a few car-lot sales are recorded every week. Small foundries in the South and elsewhere, whose needs amount to a car in about three or four months, are finding considerable difficulty in getting their business accepted.

The Trussville furnace will be producing iron by the end of the month or during the first part of October. Delays are noted just when preparations are in hand to begin drying the furnace out. This furnace should be producing upwards of 150 to 200 tons of iron daily after it gets down to work, and the company has already marketed a good tonnage of its probable make.

Actual work on excavations for the big Fairfield Works' development by the Tennessee Coal, Iron & Railroad Co., on which $11,000,000 at least will be expended, is scheduled to begin the first week in October. Labor is being employed on all sides, while teams and other vehicles are being engaged to assist in the big job.

A better output is noted in coal and coke in this State, the unrest with labor in the coal-mining section being for the time held down. The coal production in this State last week was about 70 per cent. normal, and should go to 90 per cent. this week. The United Mine Workers of America is asking the Government to revise the schedule of coal prices f. o. b. mines, as announced a few weeks ago by President Wilson, and the hope is expressed that if the protest of the operators is listened to there will be some consideration given to the miners. In the meantime, the union officials and leaders are urging their men to continue at work, and the result is the output at the mines is improving. Labor is a little more plentiful, as negroes who were in the exodus from the South during the last 12 months and longer continue to return from West Virginia, Kentucky, Illinois, Pennsylvania and other places and seek employment in the mines and other places in the industrial regions here.

There is still talk of some of the mines being closed down in this State, the price fixed by the Government for coal f. o. b. mines not being sufficient to warrant further operation. The reports are being well circulated that the Government regulation, together with the labor agitation in the coal fields of the country in the past few weeks, alone caused a loss of not less than 800,000 tons of coal, and there is a hope that this distressing movement can be stopped. There is need for all the coal and coke that can be produced in this State. Coke producers are also behind in their deliveries.

The coke production is improving again, though producers of coke say they can accept no new contracts and will not consider offers for coke for this year's delivery. Coke prices range around $12.50 per ton for foundry coke and $8 to $10 on furnace product. The Woodward Iron Co. is now drying out the 60 Wilputte by-product coke ovens that have just been completed, and the prospects are that in October they will be in operation. These ovens will add considerably to the output of coke and other by-products of the Woodward company.

A slight change is again felt in the scrap iron and steel market, and quotations for old material are somewhat off again. Consumers of heavy melting steel, which is one of the principal products, are offering to take on a little tonnage provided concessions are offered. No. 1 machinery, No. 1 wrought and stove plate felt the effects of the drooping market. Dealers say there is now some reflection of conditions here from other sections. However, there is hope that the weakness is not going to be extended nor that it will depress the market severely. There is further accumulation of scrap iron and steel on the yards of dealers in this section. Still, there is buying and assorting of the country scrap. Prices of old steel axles and old steel rails do not change very much in this section, as there is not much of a market, so far as dealers are concerned. Consumers buy direct, instead of getting dealers to look up the products for them.

Quotations for pig-iron and old material in the Birmingham district are as follows:

PIG-IRON.

No. 1 foundry and soft	$49.50 to $50.50
No. 2 foundry and soft	48.00 to 50.00
No. 3 foundry	47.50 to 48.00
No. 4 foundry	47.00 to 47.50
Gray forge	46.00 to 46.50
Charcoal	55.00 to 56.00
Basic	48.00 to 50.00

OLD MATERIAL.

Old steel axles	$32.00 to $33.00
Old steel rails	24.00 to 25.00
No. 1 wrought	26.00 to 27.00
Heavy melting steel	20.50 to 21.50
No. 1 machinery	23.50 to 24.50
Car wheels	23.00 to 24.00
Tramcar wheels	20.00 to 21.00
Stove plate	18.00 to 19.00
Shop turnings	11.00 to 12.00

Expansion of Important North Carolina Institution.

Raleigh, N. C., September 10—[Special.]—Contracts have been let for the construction for the State School for the White Blind of an administration building and three cottages, of brick and concrete and fireproof, upon plans approved by the State Insurance Commissioner. The contract goes to W. B. Barrow of Raleigh, at $141,800. This school is the oldest of all the State institutions, having been built in 1847, almost in the center of Raleigh, but the main building was condemned as dangerous last year and the college system adopted. The new location is admirable, near the Seaboard Air Line and Norfolk & Southern railways, and adjoining the lands of the State Prison and State Hospital for the Insane and the public park of Raleigh. Next year three more cottages will be erected, to provide quarters for the boys, those now under construction being for girls. This is the largest school for the blind in the world, it is stated.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

REFORM OF RAILROAD REGULATION.

Chamber of Commerce of the United States to Take a Vote on Plans.

The Chamber of Commerce of the United States has decided to submit to the consideration of the various business organizations which compose its membership suggestions for reforming the control of railroads and looking to the centralization of all control in a Federal body and the abolishment of conflicting regulation by railroad commissions in the various States.

Concerning this, the Philadelphia Bourse and the Philadelphia Joint Committee on Reasonable Regulation of Railroads, which have been working on this subject for two years, are now especially active in the matter, and the former has issued a statement saying that it is of the utmost importance that various member organizations make an exhaustive study of the questions presented to them. They are too complicated and momentous to be disposed of by a brief examination of the pro and con arguments set forth in the referendum brief, and by a superficial yea and nay vote; furthermore, that it would be well if each organization in its ballot included a thorough study of the question, together with full discussions of the points of change involved and with as many recommendations and suggestions as it might care to make.

"There never can be real reform," remarks this statement, "until the matter has been thoroughly threshed out, and the commercial interests should have as great a voice as the railroads themselves."

The Bourse and the Joint Committee believe that after such careful study and complete discussion the shipping and business interests of the United States will be virtually unanimous in favor of unified Federal regulation and the abolition of the conflicting jurisdictions of State Commissions.

In brief, the plan of the Bourse, or the so-called "Philadelphia Plan," formulated nearly two years ago, calls for Federal incorporation and enlargement and reorganization of the Interstate Commerce Commission into six regional commissions of seven men each and an appellate body, sitting at Washington. The regions are divided according to similarity of traffic and business problems and conditions. Each regional commission would consist of three expert railroad men, three business men and one jurist, one of whom would be elected chairman by his associates. With a seventh person, who would act as a sort of administrative officer, the six regional chairmen would constitute the appellate body, known as the Board of Revision and Appeals, determining questions of principle and of country-wide application and harmonizing conflicting decisions of regional commissions.

The reorganized commission also would be given authority to regulate rates up and down, settle wage disputes, supervise issues of securities, protect investors against unwise and uneconomic competition, and correct inequalities and abuses. The plan finally would delegate to a special bureau of the Department of Justice the power of investigation and prosecution, now vested in the present Interstate Commerce Commission.

A FLORIDA INTERURBAN PLAN.

Outline of Extensive System in Which Western Men Are Interested.

The Jacksonville, Miami & Tampa Interurban Railway Co. has published formal notice at Jacksonville, Fla., that application for a charter will be made to the Governor of the State on October 17. It plans to build a main line from Jacksonville eastward to the seacoast, and thence directly southward to Miami, Fla., with a branch from Daytona to Sanford, and another line across the peninsula from Hopkins to Tampa.

The main line would be about 335 miles long from Jacksonville via Pablo Beach, St. Augustine, Daytona, Cocoa, Melbourne and other points to Miami. The branch southwest from Daytona to Sanford would be about 30 miles long, and the line from Hopkins directly west to Tampa about 115 miles via Haines City, Lakeland and Plant City. The latter line may be extended about 20 miles beyond Tampa to Tarpon Springs.

This plan was first reported last winter from St. Cloud, Fla., where Wm. S. Alyea and others had been considering the possibility of building an extensive system of interurban lines for some time, and it was then disclosed that residents of St. Joseph, Mo., were interested. These are True Davis, president; Frank N. Campbell, vice-president; Joseph E. Hunt, secretary; Ross C. Cox, treasurer; Edgar E. Middleton, Samuel D. Pullen and R. F. Whalen, all of St. Joseph, and Wm. S. Alyea of St. Cloud, all of whom are the petitioners for the charter. They are also directors of the company, as is also Lida E. Mosher. The headquarters are to be at Jacksonville. Capital stock proposed is $5,000,000 preferred, $500,000 promotion stock and $4,500,000 common stock. The total number of shares (100,000) has been subscribed for by the parties named, together with Wilbur A. Ginn.

The charter says that the lines are to be operated by either oil, gasoline or electric power, and that the company may carry on a wholesale or retail business in lands, dealing in real estate and other property, platting and selling townsites and conducting a general real estate business; also dealing in general merchandise and supplies of all kinds. It may operate turpentine farms and stills, shingle mills, sawmills, etc., and also may do various things necessary in connection with town developments. It is further proposed to generally engage in the catching and sale of fish.

WAR SHIPMENTS VIA ALL PORTS.

South Atlantic Coast Cities Will Relieve Congestion.

Washington, D. C., September 18—[Special.]—Indications that Southern ports will be more largely used in the handling of transatlantic freight this winter are apparent from a recent statement issued by the Railroads' War Board. A committee has been formed to co-ordinate the activities of the railroads, the War Department, the Shipping Board, the Food Administration and the British and other foreign government war commissions now in this country to purchase supplies for the Allies. This is known as the co-ordinating committee on exportation, and it will have full power to direct freight through Southern ports as soon as congestion of Northern ports becomes imminent. Acting in conjunction with the main board and with the Car Service Commission, the co-ordinating committee will be able to supply sufficient freight cars to deflect shipping for overseas destinations to Southern ports whenever necessary.

Charles M. Schaeffer, chairman of the Commission on Car Service, is chairman of the co-ordinating committee, the other members of which thus far appointed are E. Eevel, chairman, traffic executive of the Allied Governments; J. G. Rodgers, general agent American Railway Association, military headquarters; D. L. Ewing, director of traffic, United States Shipping Board; Col. Chauncey Baker, embarkation section, General Staff, U. S. A.; C. B. Buxton, United States Food Administration, and D. W. Cooke of the American Red Cross.

The committee will hold regular meetings, and it is expected that within a short time will perfect a plan whereby all the ports of the Atlantic and Gulf coasts will be utilized in handling quickly the overseas traffic, thereby relieving present congestion and insuring against a repetition of the great freight tie-ups at North Atlantic ports last year.

115,000 FREIGHT CARS SENT SOUTH.

Transportation Facilities for Crops and Lumber Provided by War Board.

Washington, D. C., September 17—[Special.]—A steady supply of freight cars is being rushed into the South and Southwest by the Railroads' War Board to protect the movement of grain and other food products and assure the prompt delivery of the millions of feet of lumber needed by the Government for the cantonments, according to an announcement made by Fairfax Harrison, chairman.

The need of facilities for the moving of crops and lumber has become so apparent during the last four months that no less than 115,152 empty freight cars have been sent South, and more are being diverted every day.

The importance of moving the cotton crop has resulted in quick action being taken by Mr. Harrison, and large consignments of "empties" have been deflected to the cotton-carrying roads of the South, to enable them to meet the beginning of the cotton and cotton-seed movement.

Most of the cars moved into the South and Southwest are owned by roads operating in other sections of the country. They were dispatched, however, regardless of ownership, into the districts where they were most needed. The prompt compliance of the roads owning them with the orders of the Commission on Car Service averted what might easily have been one of the worst freight congestions in the history of the country, as the lines in the South and Southwest have been called upon to transport an unexampled volume of freight since the United States entered the war.

The movement of lumber for commercial purposes has been unusually heavy, and added to that has been the Government's demand for the 64,000 carloads of timber needed in the construction of the training camps for the new National Army and the thousands of other carloads that are being rushed from the Southern forests to the shipyards on the Atlantic Coast.

Coincident with the lumber movement, grain, melons, vegetables and other food products have created a demand for cars that would have been impossible to meet if the railroads of the country had not voluntarily agreed to merge their competitive activities and operate as one system during the period of the war. This agreement made possible the shifting of empty cars into districts that would have been virtually buried under the abnormal amount of freight accumulated in them if the local lines had not received help from their competitors.

At the present time hundreds of empty cars are still being rushed southward to assure the prompt movement of all Government orders for lumber. Hundreds of other "empties" are going into the Central States to protect the grain crop.

Long trains of stock cars are also moving into Western Texas, so that the thousands of heads of cattle that are threatened by the drought there may be moved into more fertile pasturage.

Heavy Expenses Hold Down Railroad Profits.

Bulletin 115 of the Bureau of Railway Economics, Washington, D. C., says that the net operating income of the railroads of the United States for June, 1917, was more than in June of last year by $32 per mile, or over 8 per cent. Total operating revenues were $349,739,636; increase, as compared with the same month of 1916, $49,720,256; operating expenses, $235,590,773; increase, $39,363,926; net operating revenue, $114,148,863; increase, $10,356,330; taxes, $16,567,481; increase $2,912,302; net operating income, $97,516,514; increase, $7,506,833. If it had not been for an increase of very nearly 20 per cent. in operating expenses and an increase of over 21 per cent. in taxes per mile, the increase in net income would have been much larger, for operating revenues per mile increased nearly 16⅓ per cent.

Bristol Traction Property Sold.

The property of the Bristol Traction Co. was sold last Saturday at receivers' sale to B. L. Dulaney and E. K. Bachman, representing the bondholders, for $70,000. The bonded debt is $163,500. Mr. Dulaney bid in the Tennessee property, consisting of track, eight passenger cars, car barns, office building, etc., for a total of $52,000, this including the Holston Valley line. The property on the Virginia side of the city, consisting of a passenger car and tracks, bid in by Mr. Bachman for $18,000. It is stated on behalf of the bondholders that additional capital will be necessary to continue operation of the railway, and that as soon as the sale is confirmed the new owners would be

willing to sell out. It is locally observed that unless something unforeseen occurs the line will cease operating within two weeks. The sale was attended by a number of people, and it may happen that some local interests will endeavor to acquire the property. Joseph A. Caldwell is the receiver.

Harahan Bridge Now Complete.

The Harahan Memorial bridge over the Mississippi River at Memphis, Tenn., which has been in use by the railroads that built it for more than a year, was opened to the general public on September 9, the highway portions of the structure having been completed after considerable delay beyond the date at which they were expected to be in use. The bridge is very nearly 5000 feet long from end to end, including the approaches. The railroad tracks are in the center and the wagon ways are on either side of them. There are also walks for pedestrians and the use of the bridge is free. The delay to its completion was on account of the necessity of building a concrete and steel approach nearly 2400 feet long on the Arkansas side of the river, where, the ground being lowlands, it required the construction of a long approach to reach the level of the bridge to avoid making a grade too steep for ordinary vehicles. The opening of the bridge was welcomed by the people, who flocked over it both on foot and in vehicles of all kinds.

The railroads which built the bridge are the Missouri Pacific, the Rock Island and the St. Louis Southwestern systems.

More Railroad Facilities to Steel Plant.

To speedily meet the requirements of the great industrial development begun at Sparrows Point, Md., near Baltimore, since the Bethlehem Steel Co. acquired the Maryland Steel Co.'s plant there, the Baltimore & Ohio Railroad is pushing construction on its branch to the steel works, tinplate plant and shipyards, and expects to have it in operation before the end of the calendar year. It connects with the Philadelphia division of the Baltimore & Ohio main line near Bayview, in the suburbs of Baltimore. The contractor is H. S. Kerbaugh, Inc., of Baltimore and New York.

The Pennsylvania Railroad also plans to enlarge its facilities at Sparrows Point, although it has operated for years the Baltimore & Sparrows Point Railroad, practically part of its system. The improvements will include freight yards at the Point, and probably another branch from the main line a short distance outside of Baltimore.

$100,000 Receivers' Certificates.

The application of the receivers of the Georgia Coast & Piedmont Railroad, asking the court for authority to issue $100,000 of receivers' certificates, is to provide for several needs, as follows: About one-half of the issue will be for money already borrowed and for which there are notes outstanding. The rest will be used to pay the cost of filling in about two miles of trestle across the Altamaha River delta between Brunswick and Darien, Ga.; to provide for the purchase of some coaches and flat cars, and the construction of a coal chute. D. C. Smith is general manager for the receivers.

Buying Railroad Cars for Its Own Freight.

Brunswick, Ga., September 17—[Special.]—The Yaryan Rosin & Turpentine Co. has bought 75 flat cars, and is converting them to haul stumps and dead timber from the territory around Brunswick, dead wood being used altogether in its process of extracting turpentine and rosin. This company recently rebuilt about 50 cars and put them in operation because of the difficulty of getting the regular rolling stock of the railroads to haul its raw material, and now it has found need for many more.

Railroads' Campaign for New Liberty Loan.

The Railroads War Board, through its chairman, Fairfax Harrison, announces that the railroads, at the request of the United States Treasury, will co-operate in the publicity campaign for the second Liberty loan, and that colored posters advertising the new issue of Liberty bonds will be displayed in the waiting-rooms of all railroad stations throughout the country. Thus information concerning the bonds will be spread before the public, but the 1,750,000 of railroad employes will also receive information about the bonds by means of a series of posters to be placed in the railroad shops and also at other points where railroad workers gather. More than $20,000,000 of the first issue of Liberty bonds were bought by railroad employes.

Chesapeake & Ohio Northern Opened.

The northern extension of the Chesapeake & Ohio Railway, from Limeville, Ky., to Waverly, Ohio, 30 miles, was opened for traffic last Sunday, two trainloads of coal being hauled northward. Connection is made at Waverly with the Norfolk & Western Railway, which is used under a trackage agreement to connect at Columbus with the Hocking Valley Railway, controlled by the Chesapeake & Ohio system, to lake ports.

New Equipment.

Georgia Coast & Piedmont Railroad will purchase some coaches and flat cars.

Louisville & Nashville Railroad is having built 40 Mikado type locomotives. It has recently put in service 35 engines of the same type.

Texas Company will build 300 tank cars in its shops at Port Arthur, Tex.

New Station Opened.

A new station for the Atlantic Coast Line at Orangeburg, S. C., has just been put in use. It is of red brick and tile, and is handsomely equipped. There are tiled platforms, covered by embrella sheds. Although it is near a crossing, it is stated that the building is so situated that street traffic will not be halted when trains are stopped.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Ardmore, Okla.—Carter county will issue $70,000 bonds to construct roads.

Charleston, W. Va.—Kanawha county will issue $90,000 bonds to construct roads in Lounden district.

Corsicana, Tex.—Navarro county voted $200,000 bonds for road construction.

Daingerfield, Tex.—Morris county voted $35,000 bonds for road construction.

Eastland, Tex.—Eastland county voted $130,000 bonds for road construction.

Marion, N. C.—North Cove township issued $50,000 bonds to build 20-mile road.

Rayville, La.—City will issue $6000 municipal improvement bonds.

Stealy Heights, P. O. Clarksburg, W. Va.—City voted $15,000 bonds for street improvements.

Zolfo, Fla.—Town voted $15,000 bonds to pave streets with vitrified brick, etc.

Bonds to Be Voted.

Austin, Tex.—City will vote on $50,000 bonds to improve streets.

Barstow, Tex.—Ward county votes October 13 on $60,000 bonds for road construction.

Lake City, Fla.—Columbia county votes October 9 on $500,000 bonds to construct brick roads through county.

Nashville, Tenn.,—City votes September 27 on $180,000 bonds for street improvements.

New Iberia, La.—City votes October 16 on bonds for roads, involving about $75,000.

Orange, Tex.—Orange county votes October 9 on $30,000 bonds to shell and gravel section of Government road.

Paris, Tex.—City votes October 9 on $20,000 bonds to widen and pave streets.

San Angelo, Tex.—Tom Green county votes October 20 on $200,000 bonds for road construction.

Snyder, Tex.—Scurry county votes October 13 on $100,000 bonds for road construction.

Thibodeaux, La.—Lafourche parish votes October 23 on $25,000 bonds for road construction.

Contracts Awarded.

Durham, N. C.—City awarded $143,776.50 paving contract.

Joplin, Mo.—City awarded contract to resurface 10,080 square yards brick pavement.

Kansas City, Mo.—Park Board awarded $65,000 paving contract.

Ruleville, Miss.—Sunflower county awarded contract to load, haul, spread, roll and prepare subgrade on 25 miles of gravel road.

Spartanburg, S. C.—Spartanburg county awarded contract for 8.8 miles of top-soil road; $124,500 available.

Tunica, Miss.—Tunica county awarded contract for 41 miles of grading, surfacing, etc.; cost $220,000.

Contracts to Be Awarded.

Atlanta, Ga.—State will expend $180,000 to improve Atlanta-to-Macon Highway.

Baltimore, Md.—State asks bids until October 2 to construct 4.33 miles of highway.

Bentonville, Ark.—Benton county will construct 26 miles of highway; cost $86,000.

Cumberland, Md.—City will construct 3450 square feet of concrete sidewalks and reconstruct 2340 square feet of brick sidewalk.

Elkton, Md.—Cecil county will construct 1½ miles of State highway.

Fort Worth, Tex.—Tarrant county will build 5-mile tarvia pike; cost $15,000.

Kissimmee, Fla.—Osceola county will construct 9 miles of brick paving with concrete curb.

McCormick, S. C.—McCormick county has $200,000 available for grading, top-soiling, etc.

Russellville, Ark.—Pope county will construct 37 miles of road.

Spartanburg, S. C.—Spartanburg county will construct 2.84 miles of National Highway.

Street Paving to Cost $143,776.

Contract has been awarded at $143,776 for 50,000 square yards of sheet asphalt paving on streets at Durham, N. C. This award is in accordance with proposals recently invited by the city, and the successful bidder is the Ely Construction Co. of Charlotte, N. C. K. B. Ward is the chief engineer in charge of this extensive improvement.

Contract for $220,000 Improvements.

Forty-one miles of road grading, surfacing, culverts, etc., have been ordered by the Tunica county commissioners, Tunica, Miss. This contract has been awarded to N. A. Dawson of San Antonio, Tex., and it amounts to $220,000. L. W. Mashburn of Clarksdale, Miss., is the engineer.

By-Products of Molasses.

It is understood that the Curtis Bay (Md.) Chemical Co. will soon begin manufacturing by-products from waste molasses in accordance with plant changes undertaken during the past several months. Animal acetate, acetone, potash, banana oil substitute used in manufacturing paints and similar products, glycerine, etc., will be included in the output. At present the waste molasses is pressed into cakes for cattle feed after the water has been evaporated. The supply of waste molasses will be obtained from the Republic Distilling Co.'s alcohol plant in the Curtis Bay district.

TEXTILES

Additions Completed at Cost of $300,000.

An expenditure of $300,000 has been completed by the Steele's Mills of Rockingham, N. C., for additions heretofore announced. The MANUFACTURERS RECORD is advised that the company has added 12,000 spindles, with 312 60-inch looms, 30 carding machines and other preparatory equipment, the looms having been furnished by the Draper Company of Lowell, Mass., and the other textile machinery by the Saco-Lowell Shops of Lowell, Mass. The $300,000 investment covers the cost of new building construction, the new equipment, the reorganization and rearrangement of the entire Steele plant. It includes building a 1½-story 285x175-foot weave shed of regular mill construction costing $50,000. T. C. Thompson & Bros. of Charlotte, N. C., were the contractors for this building. Steele's Mills now employ 300 operatives, and the daily output is 7000 pounds of print cloth.

Absorbent Cotton and Artificial Silk.

Two thousand pounds of absorbent cotton and 1000 pounds of artificial silk is the daily capacity decided upon by the Texas Textile Co. of Houston for a plant which it will build. A brick building 200 feet long by 60 feet wide will be constructed and a $50,000 equipment of machinery will be installed, including the electric power drive. The electric motors and the textile machinery have not as yet been purchased, and quotations are invited. This company has been organized with a capitalization of $250,000 and the following officers: B. N. Garrett, president; J. B. Bagley, vice-president; C. A. Lewis, secretary-treasurer; Frederick Wide, engineer-architect. Mr. Wide is of London, England, and was recently mentioned as planning a mill of this character.

Standard Knitting Mills.

By October the Standard Knitting Mills of Gastonia, N. C., will begin manufacturing with a daily production of 3000 pairs of men's half-hose. This company is now completing its mill in accordance with plans heretofore announced. It has a $12,000 two-story-and-basement 112½x40-foot building of brick mill construction, and an $18,000 equipment of machinery, including 50 knitters, with electric power chain drive, employing 30 operatives. J. S. Torrence is president, and the paid-in capital is $35,000.

Winchester Woolen Mills.

Organization has been effected by the Winchester (Va.) Woolen Mills, recently chartered with $50,000 capital. This company acquires the Winchester Woolen Mill, and will triple its capacity. Its officers are: President, George B. Dunham of Chicago; secretary, Clifford D. Grim; treasurer, Shirley Carter; both of Winchester.

Kennesaw Hosiery Co.

A daily capacity of 500 pairs of half-hose is planned by the Kennesaw Hosiery Co., Marietta, Ga. The machinery has been ordered and a building has been leased. This company has been organized with $40,000 capital, and B. G. Brumley, recently mentioned as to establish a knitting mill, is president.

To Manufacture Cotton Products.

The Natchez (Miss.) Manufacturing Co. has been incorporated with a capital of $150,000 for the production of cotton goods. Its incorporators are E. E. Brown of Natchez and F. J. Duffy and J. W. Sanders of Meridian, Miss.

A $100,000 Hosiery Company.

R. K. Lasley, C. J. Boland and C. A. Walker of Burlington, N. C., have incorporated the Walker Hosiery Mills Co. with a capital of $100,000.

Textile Notes.

Thirty-five knitting machines will be added by the Defiance Sock Mill of Charlotte, N. C., and this new equipment has been ordered.

J. G. Dudley and Garland McBrayer will establish the Blanch Hosiery Mills, Shelby, N. C., beginning with 10 knitting machines, and this equipment has been ordered.

R. Lee Mahaley, Salisbury, N. C., will install 24 looms for manufacturing cotton damask, and has ordered this new machinery. Later he expects to build a damask mill.

The Fort Prince Spinning Co., Wellford, S. C., has been incorporated with $50,000 capital and the following officers: Alfred Moore, president; John B. Cleveland, vice-president; H. M. Cleveland, secretary-treasurer.

William E. White has been elected president and S. S. Holt secretary-treasurer of the White Cotton Co., recently incorporated with $125,000 capital. This company has leased a building and ordered a $7500 equipment, to include 50 knitting machines with the electric power drive.

The Banner Hosiery Mill Co., Durham, N. C., has consolidated with the Youngsville Hosiery Mill Co. and will locate at Youngsville. Organization has been effected with the following officers: G. M. Perry, president; S. W. Jones, vice-president; J. H. Emory, secretary-treasurer; J. W. Emory, manager.

Jasper Miller of Charlotte, N. C., is not yet ready to make announcements relative to his proposed $300,000 cotton mill and hydro-electric company at Springwood, Va., but the plans are progressing. C. A. Mess, hydraulic engineer, Charlotte, estimates that the water-power will develop 600 horse-power for 24 hours daily during three months of the year and 3000 to 4000 horse-power for nine months of 60 hours per week.

High Potash-Bearing Slates Recently Discovered in Georgia.

By S. W. MCCALLIE, State Geologist.

A slate deposit has recently been discovered in Georgia by the State Geological Survey, which seems to be an excellent raw material for the extraction of potash. The deposit here referred to occurs on the Louisville & Nashville Railroad, near White's Station, Bartow county, 10 miles north of Cartersville, where it forms a belt at least six miles long, a quarter of a mile or more wide, and fully 300 feet thick.

The remarkable feature of this slate is its high potash content. A large number of samples taken from different points along the outcropping show more than 9 per cent. potash, which is from two to four times the amount found in common slate. Mr. Shearer, assistant State geologist, who has recently made a microscopic study of this slate, finds that it is made up largely of sericite and feldspar, two of our most common potash-bearing minerals.

The slate is of a light-gray color, comparatively free from iron, has an excellent cleavage, and otherwise possesses all of the qualities of a first-class roofing slate.

The unusually high potash contents of this slate, together with proximity to transportation, uniformity of composition, favorable conditions for mining and almost inexhaustible supply seem to offer more favorable conditions for the extraction of potash from silicates than any potash-bearing silicates heretofore discovered.

The chemical composition of this slate is shown by the following analysis made in the laboratory of the State Geological Survey:

Analysis of Slate from Yancey Property.

Silica (SiO_2)	54.66
Alumina (Al_2O_3)	20.14
Ferric oxide (Fe_2O_3)	3.28
Ferrous oxide (FeO)	3.17
Magnesia (MgO)	3.09
Lime (CaO)	.00
Soda (Na_2O)	1.08
Potash (K_2O)	9.39
Ignition	3.51
Moisture	.14
Carbon dioxide (CO_2)	.00
Titanium dioxide (TiO_2)	1.01
Phosphorus pentoxide (P_2O_5)	.00
Sulphur trioxide (SO_3)	.00
Sulphur (S)	.10
Manganous oxide (MnO)	.00
Barium oxide (BaO)	.00
	99.57

MINING

$3,000,000 KENTUCKY COAL ENTERPRISE.

United States Coal & Coke Co. Progressing With Plans for Mining and Town Development.

Approximately $3,000,000 is understood to be the amount which the United States Coal & Coke Co. (subsidiary of the United States Steel Corporation) of Gary, W. Va., will invest for its Harlan and Letcher county coal development in Kentucky. This enterprise was outlined in August, when the company's chief engineer, Howard N. Eavenson of Gary, wired the MANUFACTURERS RECORD that the plans call for the development of 20,000 acres of coal land to a daily capacity of 10,000 tons of coal, all the mechanical equipment to be driven by electric power, and the town development to cost $1,900,000.

The development plans have been determined and preliminary construction is now in progress for mining coal, which the company will ship to its batteries of coke ovens at Gary, Ind.; South Chicago, Ill., and Joliet, Ill. Ten mining plants will be installed and from 2500 to 3000 miners will be employed when the full capacity is attained. These activities are within two miles of Benham, Ky., on the Black Mountain extension of the Louisville & Nashville Railway, and the general offices will be located at Poor Fork, Harlan county, where the United States corporation has leased an acre of land for the purpose. This location is also within 130 miles of Knoxville, Tenn., and the coal acreage is adjacent to the big developments of the Wisconsin Steel Co., a subsidiary of the International Harvester Co.

Town development plans for the United States Coal & Coke Co. provide for the construction of such public utilities as an electric-lighting plant, water-works and sewer system, together with comfortable and convenient homes for the employes. Schools, churches, theaters, clubhouses, restaurants, hotels and other buildings will also be erected. The company's acreage is largely covered with hardwood timber, and sawmills are being installed to manufacture the lumber necessary for town and mine construction. There will also be brick works established and quarrying equipments installed for cutting the native stone, the product of these plants also to be used for town construction.

$1,250,000 West Virginia Development.

Progress is being made with the Exeter Colliery development at Welch, W. Va., of the Solvay Collieries Co., which has its general offices at Syracuse, N. Y. The general superintendent at Welch is C. C. Morfit, and he advises the MANUFACTURERS RECORD that the estimated cost of the installation is $1,250,000.

A 40x13-foot hoist shaft and a 26x14-foot air shaft are being sunk, about half the steel shovel grading for sidings has been completed, and propositions are being considered for hoists, tipple and power equipment. The developments will also necessitate the construction of a mining town, and plans for the installation of machinery provide for a daily capacity of 4000 tons of coal, having the plant ready to ship its product within the next eight months.

New Texas Sulphur Development.

Texas capitalists will organize a $300,000 corporation to develop sulphur deposits. The company will be known as the Southern Sulphur Co. of Houston, and the incorporators are John H. Kirby, B. F. Bonner and H. L. Fagin.

American Iron and Steel Institute Planning Cincinnati Meeting.

The next general meeting of the American Iron and Steel Institute will be held at Hotel Sinton, Cincinnati, O., October 26 and 27. The first day will be devoted to papers and discussions, with a banquet at night, and the second day will be available for seeing Cincinnati and vicinity. Formal announcement of the program will be made later.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is $25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ark., Wilmot.—Ashley County Commrs., Hamburg, Ark., will construct bridge across Bayou Bartholomew, about 1 mi. from Wilmot; length 140 ft.; steel; wooden approaches; 12-ft. roadway.

D. C., Washington.—District Commrs. will erect Calvert Street bridge (across Rock Creek) of stone and cement; length about 200 ft.; estimated cost $800,000; appropriation not yet made by Congress; bridge plans, by Geo. Oakley Totten, Jr., 808 17th St., Washington, have been accepted. (Lately noted.)

Ga., Macon.—Central of Georgia Ry., C. K. Lawrence, Chief Engr., Savannah, will not construct concrete bridge at Macon. (Recent report incorrect.)

Ga., Savannah. — Altamaha River Bridge Co. organized with Mills B. Lane, Prest.; Frank C. Battey, V.-P.; R. M. Hitch, Secy.; Arthur W. Solomon, Treas.; construct bridge across Altamaha River. (Lately noted incptd. with $100,000 capital.)

Mo., St. Louis.—Board of Public Service let contract at $64,495.68 to Herbert Hirchert Construction Co., St. Louis, to construct proposed viaduct across Broadway at Bellerive Park.

Okla., Idabel.—Little River Bridge Co., D. G. Flenneken, Secy., has let contract for construction of steel 160-ft. span bridge; cost $10,000; J. R. Johnson, Clarksville, Tex., Engr. (Lately noted.)

Okla., Muskogee.—Muskogee County Commissioners will construct bridge No. 126-S over Dirdeene Creek, 5 mi. southeast of Webbers Falls; 119-ft. steel truss on concrete piers with 30-ft. wood pile approaches on each end; bids opened Oct. 2; plans and specifications at office T. P. Clonts, County Engr.; Lewis F. Kipp, County Clerk. (See Machinery Wanted—Bridge Construction.)

S. C., Spartanburg.—Spartanburg County, Reid Tull, Ch. Engr., will construct three concrete or steel river bridges; will let contract.

Tenn., Nashville.—City votes Sept. 27 on $220,000 bonds to purchase land for rights of way, construct, widen, extend and pave viaducts and approaches, etc. Address City Commrs.

Va., Newport News.—Washington-Newport News Short Line, F. S. Gannon, Prest., 55 Liberty St., New York, plans to bridge James, Nansemond and Elizabeth Rivers; plans include constructing bridge from Newport News across the roads at mouth of James and Nansemond Rivers to point ⅝ mi. east of Pig Point; also bridge across Southern Branch of Elizabeth River north of navy-yard in Portsmouth; latter contemplates double-leaf bascule span with clear opening 300 ft. and vertical clearance 6 ft. at mean low water with bridge closed; Newport News bridge double-leaf bascule span with 300-ft. clearance and vertical clearance 15 ft. at high water with bridge closed; in continuance of this trestle and bridge would be girder spans and pile trestle spans with swing bridge opposite Nansemond River, affording 2 clear openings each 100 ft. wide.

CANNING AND PACKING PLANTS

Ga., Sirmans.—L. H. Lee and J. B. Strickland of Stockton, R. F. D., Ga.; H. H. Jones and others constructing cannery to cost $5000; capacity, 15,000 daily; W. H. Boxley, Mgr.

Tenn., Dayton—Meat-packing Plant.—E. M. Williamson, care of Business Men's Club, contemplates organizing company to build meat-packing plant (pork) in 1918.

CLAYWORKING PLANTS

Tex., Groesbeck—Brick.—Groesbeck Brick Co. increased capital from $17,000 to $32,000.

COAL MINES AND COKE OVENS

Ala., America. — Peerless Coal & Mining Co. increased capital from $20,000 to $100,000.

Ala., Birmingham.—Cahaba River Coal Co. incptd. with J. W. Downing, Prest.; L. E. Conway, V.-P.; W. C. Davis, Secy.-Treas.

Ark., Hartford.—Roughly Coal Co. organized: Abe Roughly, Prest.; John White, V.-P.; W. E. West, Secy., Treas. and Mgr.; develop 3 acres; daily capacity 80 tons. (Lately noted incptd.)

Ky., Benham. — United States Coal & Coke Co., Howard N. Eavenson, Chief Engr., Gary, W. Va., determined development plans and began preliminary construction for 20,000-acre coal development; plans call for all equipment driven by electric power, daily capacity 10,000 tons coal, town development costing $1,900,000, 10 mining plants, water-works, electric-light plant, sewer system, schools, clubhouses, restaurants, playgrounds, moving-picture theaters, etc.; acreage largely covered with hardwood timber; installing sawmills to manufacture lumber for construction; proposes to build brick works and install machinery for quarrying native stone; ship coal for own use in coke plants at Gary, Ind., South Chicago, Ill., and Joliet, Ill.; total expenditure will probably be $3,000,000. (Engineer Eavenson wired Manufacturers Record in August outlining this 20,000-acre development.)

Ky., Hazard.—Lots Creek Coal Co. organized; C. B. Richardson, Prest., Balkan, Ky.; S. E. Mahan, V.-P., Williamsburg, Ky.; T. J. Roberts, Secy.-Treas.; C. M. Davis, Mgr.; both of Packard, Ky.; develop 556 acres; daily capacity 700 to 800 tons. In August, noted incptd., capital $60,000. (See Machinery Wanted—Mining Machinery.)

Ky., Indian Bottom.—Blackey Coal Corp. organized; J. D. Blair, Prest.; Geo. S. Clark, V.-P.; Stephen Jenkins, Secy.-Treas.; Blair and Clark, Mgrs.; develop 100 acres; daily capacity 150 tons; purchased spool drum equipment, cost $2500 to $3000. Lately noted, capital $30,000. (See Machinery Wanted—Rails; Cars.)

Ky., Lothair.—Algoma Block Coal Co. organized; W. J. Pritchard, Bramwell, W. Va., Prest.; T. J. Burke, Cincinnati, O., V.-P.; D. T. Pritchard, Lothair, Secy.; develops 1500 acres; daily capacity 450 tons; machinery supplied. (In July noted incorporated, capital $200,000.)

Ky., McDowell.—King Elkhorn Coal Co., 18 Gaylord Bldg., Ashland, Ky., organized; Jas. E. King, Ashland, Prest.-Treas.; Thos. B. Powell, V.-P. and Mgr.; H. R. Dysard, Secy.; develop 229 acres; daily capacity 200 tons; mines on Beaver Creek, Floyd County, on Long Fork Ry.

Md., Cumberland. — Georges Creek-Parker Coal Co. increased capital from $100,000 to $500,000.

Md., Cumberland.—North Maryland Coal Mining Co. incptd. with $650,000 capital; officers and directors include J. Disbrow Baker, 5105 Overbrook Ave.; Jos. P. Murray, 921 S. 50th St., both of Philadelphia, Pa., and F. Stanley Saurman, Churchville, Pa.

Mo., St. Louis.—Jewel Coal & Mining Co., capital $15,000, incptd. by John M. Poepperling, S. J. Walton and others.

N. C., Elizabeth City.—Fuel Supply Co. incptd. with $100,000 capital by J. P. Kramer and others.

N. C., Southern Pines.—Carolina Coal Co., capital $100,000, incptd. by Bion H. Butler and J. N. Powell of Southern Pines, and J. R. McQueen of Pinehurst, N. C.

Okla., Vinita.—Craig County Coal Co. incptd. with $25,000 capital by W. D. Ecstein, W. H. Klaus and W. O. Dillon.

Va., Richmond. — Back Creek Mountain Corporation incptd. with $100,000 capital; J. R. Paschall, Prest.; Jas. M. Mullen, Secy.-Treas.

W. Va., Buckhannon.—Splint Coal & Coke Co. incptd. with $200,000 capital by W. E. Rice, Logan Rush, Thomas Love and others, all of Connellsville, Pa.; develop coal properties in Upshur County.

W. Va., Buckhannon. — McCullough Coal Co., 10 Peoples Bank Bldg., organized; J. W. McCullough, Prest.; R. O. McCullough, V.-P.; J. O. Midlam, Secy.-Treas.; D. B. Kooser, Mgr.; develop 200 acres; daily capacity 100 to 200 tons. In July, noted incptd., capital $50,000. (See Machinery Wanted—Mining Machinery.)

W. Va., Brounland.—Meadow Lick Coal Co. incptd. with $50,000 capital by Otis Lively, J. C. O'Neal, Pax, W. Va.; W. C. De Laney, Frank Kerns, both of St. Albans, W. Va., and M. C. Gilchrist, Charleston, W. Va.

W. Va., Charleston.—Rock Bottom Coal Co. incptd. with $40,000 capital by E. D. Haywood, R. Kemp Morton and F. M. Stambaugh, Charleston and C. D. Hopkins and J. M. Epperly, St. Albans, W. Va.

W. Va., Charleston.—White Flame Coal Co., 603 Kansas National Bank Bldg., organized; W. G. Morris, 14 Kansas Bank & Trust Bldg., Prest.; W. E. Davis, V.-P.; Geo. E. Taylor, Secy.; E. L. Ballard, Treas.; P. W. Bentley, Mgr.; develop 400 acres; capacity not estimated. (Lately noted incptd., capital $10,000.)

W. Va., Clay.—Clay County Coal and Land Co. incptd. with $5000 capital by James Reed, B. C. Eakle, R. E. Reed, J. P. Dawson and G. W. McCune.

W. Va., Elkhurst.—Big Block Coal Co., Elk Bank, Charleston St., Charleston, W. Va., incptd., capital $50,000; O. L. Hall, Prest.; J. C. Carson, V.-P.; C. E. Lewis, Secy.; H. M. Carson, Treas.; Wm. Carson, Mgr.; develop 116 acres; daily capacity 1 to 5 cars.

W. Va., Morgantown.—Citizens' Fuel Co. incptd. with $10,000 capital by Morton Van Voorhis, W. E. Hunter, E. D. Tumlin and J. L. Hatfield.

W. Va., Martinsburg.—Chas. Post, Prest. Bank of Lost Creek, plans organization company to develop 1500-acre coal tract.

W. Va., Mt. Clare.—Mt. Clare Colliery Co. organized; Paul P. Gannon, Westernport, Md., Secy.-Treas.; J. Hubert Callahan, Mt. Clare, Mgr.; develop 120 acres; daily capacity 600 tons; purchased equipment. (Lately noted incptd., capital $150,000, to operate mines in Grant Dist.)

W. Va., Princeton.—Ruby Coal Co. incptd. with $20,000 capital by G. W. Lazenby, S. V. Straleigh, T. B. Beckwith and others.

W. Va., Reynoldsville.—Alpha Portland Cement Co., Easton, Pa., advises Manufacturers Record: Not prepared to make positive statement in regard to developing coal property recently obtained near Reynoldsville. (Lately noted acquiring coal land.)

W. Va., Welch.—Solvay Collieries Co., general offices at Syracuse, N. Y., progressing with Exeter Colliery development; C. C. Morfit, Gen. Supt., Welch, advises Manufacturers Record: Sinking 40x14-ft. hoist shaft and 26x14-ft. air shaft; about half completed steel shovel gradings for sidings; considering propositions for hoists, tipple and power equipment; estimated cost of installation $1,250,000; estimated time of completion 8 months. Outlining this development in June, Mr. Morfit advised the Manufacturers Record that 4000 tons coal will be daily capacity and that plans include building mining town. (See Machinery Wanted—Mining Equipment.)

CONCRETE AND CEMENT PLANTS

Okla., Oklahoma City — Fence Posts.—Farmers' Concrete Post Co., 308 Patterson Bldg., organized; A. L. Busey, Prest.; E. D. Wrinkle, V.-P. and Mgr.; C. D. Jones, Secy.; erect 50x150-ft. ordinary wood construction building; install concrete mixer and molds; manufacture concrete fence posts. (Lately noted incptd., capital $100,000.)

COTTON COMPRESSES AND GINS

Tex., Hutto.—Thos. G. Hyslop, whose mill was lately noted burned, loss $20,000, advises Manufacturers Record: Will not rebuild on old site; enlarge another plant, installing 5-70 saw equipment to cost $12,000; daily capacity 50 bales; also have purchased established 8-70 saw ginnery of C. N. Stearns.

DRAINAGE SYSTEMS

Ga., Marietta.—Commrs. Allatoona-Proctor Creek Drainage Dist. No. 1, Joe Abbott, Secy., ask bids until Sept. 27 for drainage construction: dredge ditches on Allatoona Creek, east and west forks, about 241,937 cu. yds. earth and 2550 cu. yds. rock; on Proctor Creek and Butler Creek, dredge ditches (and team and hand labor), 32,375 cu. yds. earth; 2300 cu. yds. rock excavation at Old Mills shoals, Bartow County. (See Machinery Wanted—Drainage.)

Ky., Dixon. — Webster County Drainage Board, W. C. Hardwick, V.-P., will construct 4-mi. ditch; dredge work; estimated cost $25,000; will ask bids.

Ky., Owensboro. — Drainage Commrs. for Daviess County will construct Panther Creek Drainage System; excavation 3,633,400 cu. yds. earth; bids opened Sept. 20; specifications from J. R. Hays, Atty.; information from C. A. Brown, Engr., Owensboro. (See Machinery Wanted—Drainage System.)

Miss., Carrollton. — Pofacocowa Drainage Dist. engaged Morgan Engineering Co., Mem-

phis, Tenn., to make surveys and plans for reclaiming 25,000 acres along Potacocowa Creek.

Miss., Clarksdale.—Drainage Commission of Coahoma County, Chas. W. Clark, Atty., will clean and repair drainage system of Hopson's Bayou Drainage Dist.; 16 mi. canals already constructed; estimated yardage 170,000 cu. yds.; bids opened Oct. 2; plans and specifications at office L. W. Mashburn, Engr.; C. G. Bobo, Secy. (See Machinery Wanted—Drainage System.)

Tenn., Lexington.—Beech River Drainage contract in Henderson County was let to John R. Thrasher of Lexington; includes 4 canals 18 ft. wide, 6 ft. deep to 26-ft. wide, 8 ft. deep; clearing 80-ft. right of way; excavation as per specifications; cost $30,000; floating dredge work; drain 3000 acres for agriculture; Engr., Merriwether Engineering Co., Jackson, Tenn. This supersedes recent notice. (See Machinery Wanted—Dredge.)

ELECTRIC PLANTS

Fla., Clearwater.—J. Bornstein, Prest. Republic Real Estate & Construction Co., will build electric-light plant.

Miss., Magee.—Mississippi State Tuberculosis Sanatorium will install electric-light plant, sewer-disposal and water-works systems; Bem Price, Archt., 518 Empire Bldg., Birmingham, Ala., to receive bids. (See Machinery Wanted—Electric-light Plant.)

N. C., Reidsville.—Town Commrs. voted to accept offer of Southern Public Utilities Co., Raleigh, N. C., to purchase electric-light plant for $30,000 and ordered election for October to vote on proposition.

Okla., Addington.—City votes September 20 on $5000 bonds to construct electric system. Address The Mayor.

Okla., Beaver City.—City will issue $8000 bonds to construct electric plant; reported to soon invite construction bids. Address The Mayor.

Okla., Miami.—City will vote on $45,000 bonds for water main and electric-light extension; Hughes Engineering Co., Engr. (See Waterworks.)

Tenn., Jefferson City.—Mr. Goughnour of Newport, Tenn., purchased local electric plant; contemplates improvements.

Tenn., Lebanon.—City votes Oct. 6 on $25,000 bonds to build electric-light and water plant. Address The Mayor.

Tex., Bells.—Texas Power & Light Co., Dallas, Tex., is reported as contemplating construction of substation and high-tension transmission system from Bells to Whitewright.

Tex., Marfa.—Morrison & McCall of St. Louis, Mo., purchased Marfa Light & Ice Co.'s plant; reported to install additional machinery and increase capacity.

Va., Norfolk.—Virginia Railway & Power Co. will build 1-story brick and concrete sub-station; cost $2500.

W. Va., Glen Lyn. — Appalachain Power Co., Bluefield, W. Va., let contract to C. W. Hancock & Son, Lynchburg, Va., to build $1,000,000 steam-driven electric generating station on New River, between Virginian and Norfolk & Western railways; capacity 100,000 K. W.; equipment to include 18,750 K. W. turbine, three 1200 H. P. boilers, etc.; may furnish electricity for proposed Virginian Ry. electrification at Clarks Gap and for proposed extension of Norfolk & Western Ry. electrification east of Bluefield. (Previously noted.)

FERTILIZER FACTORIES

Fla., Pensacola. — Pensacola Fertilizer & Oil Co. (lately noted incptd. with $250,000) organized; F. W. Miller, Prest.; M. P. McGrath, V.-P.; J. A. Baker, Secy.-Mgr.; C. H. Munger, representative; all care of C. H. Munger at 21 Spruce St., New York; establish menhaden fishery plant, including facilities to manufacture fertilizer and oil; erect factory building, scrap shed and 2 commissary buildings; ordinary construction; plant equipment to include 3 engines, two 150 H. P. boilers, four 12,500-gal. oil tanks, 2 water tanks, oil and water pumps, electric-light plant, dryers, presses, corkers, menhaden fish-handling machinery, etc. (See Machinery Wanted—Fishery Plant; Oil-mill Machinery; Engines; Boilers; Electric-light Plant; Pumps; Tanks.)

Md., Halfway.—Beckley Fertilizer Co., capital $5000, incptd. by S. M. Wolfinger, Wm. Logan and Lewis W. Zeigler.

FLOUR, FEED AND MEAL MILLS

Ala., Slocomb.—Farmers' Union Gin Co. (J. E. Cox and others) will install feed mill; cost $5000.

Ala., Evergreen. — Evergreen Milling Co. incptd. with $10,000 capital by Wm. M. Newton, O. C. McGehee, Jr. and C. A. Jones; manufactures feedstuff and fertilizer from farm products.

Ark., Heber Springs.—J. W. Vaughan is reported to build roller flour mill.

Ga., Americus. — W. J. Rice will build roller flour mill; daily capacity 30 bbls.

Ga., Montezuma.—Berthan Lewis Corp., capital $50,000, incptd. by E. B. Lewis and others.

Ga., Swainsboro.—Emanuel County Products Co., capital $50,000, organized to operate feed mill, etc.

Ga., Tifton.—Mutual Milling Co., capital $2000, incptd. by E. P. Bowen, H. H. Tift, Jr., E. L. Harman and others.

Okla., Carnegie. — Carnegie Milling Co., lately noted incptd., capital $15,000, organized with E. T. Schooling, Prest., and R. N. Schooling, Secy. and Mgr.; operate corn and feed mill, building of which was described in July, with machinery mainly purchased; building contr., Albert Piercey; capacity of mill, 50 bbls.; install corn-meal mill. (See Machinery Wanted—Corn Meal Mill.)

S. C., Bethune.—Buffalo Milling Co. incptd. with $6000 capital; D. L. Catoe, Prest.; M. A. Shaw, V.-P.; Amos West, Secty.-Treas.

FOUNDRY AND MACHINE PLANTS

Mo., Kansas City—Stoves, etc.—Metzner Stove Repair Co. incptd. with $80,000 capital by Melford Loeb, A. S. Nachman and Peter H. Wagner.

Tex., Fort Worth—Oil Tanks.—Economy Oil Tank Co. incptd. by J. D. Trammell, L. L. Burton and W. R. Edrington.

Va., Bristol—Machinery.—Indian Block Machine Corp. incptd. with $25,000 capital; Dick Burson, Prest.; Geo. M. Turner, Secty.

W. Va., Wheeling—Water Heaters.—General Mfg. Co. incptd. with $30,000 capital by Lewis D. Stump, John C. Berry, M. E. McGreal and others.

GAS AND OIL ENTERPRISES

Kentucky.—National Oil Co., $1,000,000 capital, chartered by Jacob Weissberger, Horace J. Phillips and Roberta Paine, all of New York.

Ky., Irvine—Pipe Line.—Cumberland Pipe Line Co. increased capital from $1,000,000 to $1,500,000; will enlarge Irvine pipe line to capacity of 12,000 bbls. oil daily and probably extend to Olympia fields; offices at Winchester, Ky. (Supersedes recent item.)

Ky., Lexington.—Olympian Oil & Land Co. incptd. with $100,000 capital by W. O. Field, M. Don Foreman, both of Lexington, and others.

La., Shreveport — Oil Refinery. — Republic Oil & Refining Co. incptd. with $250,000 capital; J. W. Atkins, Prest.; Sam Weiner and Dr. J. L. Kimbell, V.-Ps.; M. J. Jones, Secy.-Treas.

Mo., Kansas City.—Lucky Strike Oil & Gas Co. incptd. with $22,000 capital by A. H. Mack, D. H. Epstein and Robt. E. Phelan.

N. C., Burlington—Gas Plant.—Burlington Gas Co. organized; J. B. Lydecker, Prest.; capital stock $100,000; trustee, Alamance Insurance & Real Estate Co.; length of pipe, 9 mi. 8, 6, 4 and 2-in.; capacity of holder, 60,000 ft.; now ready for material; Engr. and Contr., B. Van Steenburg, Room 1022, 26 Cortlandt St., New York, and Burlington. Lately noted incptd. (See Machinery Wanted—Gas Plant Material.)

Okla., New Wilson—Oil Refinery.—Wilson Refining Co. increased capital from $50,000 to $75,000.

Okla., Oklahoma City.—Flag Oil & Gas. incptd. with $50,000 capital by W. B. Anthony, Oklahoma City; J. H. Townsend and A. V. Dinwoddie, both of Stillwater, Okla.

Okla., Oklahoma City.—Maul Oil & Gas Co. increased capital from $50,000 to $150,000.

Okla., Oklahoma City.—Torchlight Oil Co. increased capital from $3000 to $400,000.

Okla., Oklahoma City.—Cadokla Oil Syndicate incptd. with $350,000 capital by Hugh L. Harrell, 16 Indian Temple; O. W. Connolly, 500 W. California St., both of Oklahoma City, and Arthur W. Britton, 65 Cedar St., New York.

Okla., Pawhuska — Oil Refinery. — Osage Mutual Oil & Refining Co., Box 603, J. E Holmes, Supt., advises Manufacturers Record: Capital stock $150,000; building oil refinery and drilling on own leases; capacity of plant 2500 bbls.; first unit 1000 bbls.; now receiving machinery bids. (See Machinery Wanted—Oil-refinery Equipment.)

Okla., Randlett.—Randlett Oil Co., capital $100,000, incptd.; C. C. Bradford, Prest., Wichita Falls, Tex.; O. E. Maple, V.-P., Grandfield, Okla.; T. H. Leicham, Secy.; T. H. Benninger, Treas., both of Wichita Falls, Tex.

Okla., Tulsa.—Concrete Casing Oil Drilling Co. incptd. with $10,000 capital by Arthur T. Ruthven, Hal R. Cullen and John T. Covington.

Okla., Tulsa.—Janellel Oil Co. incptd. with $100,000 capital by P. E. Magee, A. G. Steward and W. D. Abbott.

Okla., Tulsa.—Coleman Corp., capital $20,000, chartered by Clarence E. Swanson and C. O. Gillman of Tulsa, and F. A. Banister of St. Louis, Mo.

Okla., Wewoka.—Our Oil & Mining Co., capital $25,000, incptd. by S. W. Lane and E. E. Jayne of Wewoka and Roy L. Wood of Shawnee, Okla.

Tex., Dallas.—Chenowth Oil Co. incptd. with $10,000 capital by Dr. W. R. Stovall, S. J. Chenowth, H. A. Fisher and Monta R. Ferguson.

Tex., Fort Worth.—K. T. C. Oil Co., capital $20,000, incptd. by Frank Tomlinson, A. T. Culbertson and S. O. Lovejoy.

Tex., Hereford.—Hereford Oil Co., capital $150,000, incptd. by John P. Slaton, G. R. Jowell, John Brownlee and D. L. McDonald.

Tex., Houston.—John O'Neil Oil Co. incptd. with $10,000 capital by John O'Neil, Robt. F. Farmer and A. Feldman.

Tex., Houston.—Torbet Oil Co. increased capital from $6000 to $50,000.

Tex., Humble—Oil Refinery.—Humble Oil & Refining Co., capital $4,000,000, incptd. by R. S. Sterling and W. S. Parish of Houston and H. C. W. Wiess of Beaumont, Tex.

HYDRO-ELECTRIC PLANTS

N. C., Raleigh.—Carolina Power & Light Co. acquired all water-powers on Yadkin and Pee Dee Rivers between Badin, N. C., and Cheraw, S. C.; 5 power sites; secured power site on Rocky River, which flows into Yadkin below Badin; the 5 sites are irrespective of Blewetts Falls, already developed and furnishing electricity in North and South Carolina; acquired 27,000 H. P. at a plant on Wateree River in South Carolina and is building transmission system to connect this supply of electricity with present lines; has light and power privileges at Marion, Florence, Darlington, Mullens and other cities in eastern South Carolina, between North Carolina and Somerville as far as Cheraw; steam plants at these locations; many electrical installations planned in this connection.

N. C., Wilmington.—Tide-Water Power Co. does not plan additional developments; Hugh MacRae, Prest., advises Manufacturers Record: Consolidated Railways, Light & Power Co. merged with and sold to Tide-Water Power Co. last April; this was virtually routine action; do not contemplate any improvements or additional construction at this time. (These two companies lately noted consolidating with $1,195,900 capital.)

Va., Springwood.—Jasper Miller, Charlotte, N. C., has not yet fully organized company, but plans are under way for lately-noted hydro-electric development; C. A. Mess, Hydr. Engr., Charlotte, estimates capacity at 600 H. P. per 24 hrs. daily for 3 months of year and 3000 to 4000 H. P. for 9 months of 60 hrs. per week. (See Textile Mills.)

ICE AND COLD-STORAGE PLANTS

Ala., Dothan.—City is considering installing ice plant in connection with municipal power plant. Address The Mayor.

Ala., Reform.—Reform Ice & Light Co., capital $3000, incptd. by A. J. Staub, Jr., Earl Beatty and E. J. Staub.

Ala., Montgomery.—Alabama-Georgia Syrup Co., L. B. Whitfield, Prest., and J. E. Griggs, Secy.-Treas., let contract to A. J. Shafer, Montgomery, to erect 50x100-ft. fireproof building; plans by Okel & Cooper, Montgomery. (Lately noted to erect $3000 addition to cold-storage plant.)

Ark., Blytheville.—F. Johns, Luxora, Ark., is reported to have purchased and to install ice plant.

Fla., Clearwater.—J. Bornstein, Prest. Republic Real Estate & Construction Co., will build ice plant.

Ky., Versailles. — Versailles Ice & Cold Storage Co. incptd. with $15,000 capital by T. B. Satterwhite, L. G. Strode and J. P. Morgan; principal office, Lexington, Ky.

Miss., Vicksburg.—Merchants & Farmers Cooperative Creamery Co. is reported to build cold-storage rooms and install refrigerating and ice-cream plants, etc. (Previously noted.)

Mo., Bolivar.—A. C. Reed and C. H. Barnett let contract for insulation of cold-storage rooms and to install refrigerating plant.

Mo., St. Louis.—Union Butter, Ice & Mercantile Co., capital $15,000, incptd. by Wm. Arthur Deems of St. Louis, Henry G. Dammer of Krakow, Mo.; Sam T. Jewett of Union, Mo., and others.

Okla., Guymon.—Mr. McBratney reported to establish 8-ton ice-making plant; let contract to Fisher Machine Works Co., Leavenworth, Kan.

Tex., Dallas.—Electrified Water & Ice Co. will erect $25,000 concrete building for ice and electrified water plant; Archt., C. H. Page & Bro., Austin, Tex. (See Miscellaneous Enterprises.)

Tex., Fort Worth.—North Fort Worth Ice & Cold Storage Co. will increase daily capacity of ice plant from 100 to 130 tons.

Tex., Marfa.—Morrison & McCall of St. Louis, Mo., purchased Marfa Light & Ice Co.'s plant; reported to install additional machinery.

Tex., San Antonio.—Southern Ice & Cold Storage Co. let contract to York Mfg. Co., York, Pa., to construct ice plant; 110x167 ft.; daily capacity 165 tons; cost $150,000.

Tex., San Antonio.—Manhattan Cafe let contract to enlarge restaurant including installing refrigerating plant; cost $15,000.

Tex., Wichita Falls.—Peoples Ice Co. having plans prepared by Robt. M. McCandlish Engineering Co., Kansas City, Mo., for 10,000-ton ice storage-house; probably install refrigerating machinery.

Va., Accomac.—Delaware Heat & Light Co. plans to build cold-storage house 60x70 ft.; 28 ft. high.

W. Va., Mullens.—Magic Cola Ice & Bottling Corp., I. S. Fine, V.-P. and Mgr., will erect $25,000 building and install ice machinery of 30 tons per 24 hrs. capacity in connection with ice-cream manufacture, etc. (See Miscellaneous Factories.)

W. Va., Mullens. — National Motor Co., Princeton, W. Va., increased capital to $50,000; will establish ice plant and bottling works.

IRON AND STEEL PLANTS

Ala., Sheffield — Iron Furnace. — Sheffield Iron Corp., W. L. Kluttz, Gen. Mgr., advises Manufacturers Record further: Will repair furnace here and make same available for pig-iron production; practically no new machinery needed. Lately noted chartered, with $775,500 capital, by Jas. Gayley, Jas. R. Floyd and Howard K. Wood, all of 71 Broadway, New York, with the Sheffield improvements as part of reorganization. (See Machinery Wanted—Crane; Rolls; Hammer.)

Tex., Texas City—Iron Furnace.—Texas Resources Development Co., Harvey A. Thomas, Secy., is reported planning to construct iron furnace; previously organized to develop 10,000 acres iron ore land in Marion and Cass counties and to build smelter; holding company for allied Texas City corporations, which includes Texas City Electric Light & Water Co., Texas City Co., Texas City Street Railway Co., Texas City Sewer Co. and Passneger Pier Co. (In July noted increasing capital from $4,000,000 to $6,000,000 and reported to build furnace.)

W. Va., Charleston — Projectile Plant. — Navy Department, Bureau of Ordnance, Washington, D. C., begun construction projectile plant; Frank H. Clark, by direction of Chief of Bureau, advises Manufacturers Record: Armor Plant Board, as such, has ceased to exist and projectile plant is being built by Bureau of Ordnance, except that Bureau of Yards and Docks is taking over such part of the work as comes under that bureau; all contracts for consthruction and equipment have been awarded; Warren & Moore, General Contrs., Philadelphia, Pa., within $800,000 for buildings and grounds. (Appropriation of $1,750,000 for projectile plant, with plant details, etc., heretofore announced.)

LAND DEVELOPMENTS

Fla., Miami. — Tamiami Trail Land Co. incptd. with $50,000 capital; J. F. Jaudon, Prest.; A. H. Bouldin, V.-P.; L. T. Highleyman, Secy.-Treas.

Fla., Miami.—Tatum's Ocean Beach Park Co. incptd. with $4,000,000 capital; J. H. Tatum, Prest.; J. R. Tatum, V.-P.; B. B. Tatum, Secy.; S. M. Tatum, Treas.; develop large acreage adjacent to and near ocean beach; improvements to include districts for large estates, dwellings, amusements, 6 mi. highway on sea coast, hotels, apartment-houses, water-works, electric-lighting facilities, sewers, golf links, etc.

Fla., Miami.—Chevalier Corporation organized; J. F. Jaudon, Prest.; George F. Cook, Secy.-Treas.; capital stock $500,000; develop 207,360 acres in Western Dade and Northern Monroe counties on Gulf of Mexico, west of Miami; construct hard surface roads; establish townsites, construct streets and sewers, etc.; expend $1,000,000; F. K. Ashworth, Miami, Engr.; clear natural channels and create artificial waterways from coast to interior of tract; drill artesian wells; provide mill site for production of cypress and pine timber on the tract; estimated at 132,000,000 ft. cypress and 18,000,000 ft. pine. (Lately noted incorporated.)

Fla., Zolfo.—Town voted $15,000 bonds for improvements to city park, etc. Address Town Clerk. (See Road and Street Work.)

Ga., Albany.—Coolawahee Plantation Co. incptd. with $500,000 authorized capital by Robert Brooks, Albany; H. R. Woodcock and Homer Andrews, both of Macon, Ill.; purchased Coolawahee Plantation of several thousand acres; general plantation development.

La., Morgan City.—Morgan City Co. incptd. with $75,000 capital; A. F. Storm, Prest.; Lewis J. Bassm, V.-P.; M. E. Norman, Secy.; develop 3700-acre tract near city limits.

La., New Orleans—Cemetery.—Rose Hill, Inc., capital stock $375,000, 801 Maison Blanche, Baccich & de Montluzin, Fiscal Agents; develop cemetery; 60 acres; initial outlay $550,000; let unit contracts, first unit to be begun Dec. 1; then require construction machines; other mechanical appliances, crematory retorts, etc., to be needed later; construction department of Baccich & de Montluzin to handle main part of work; Morgan D. E. Hite, 801 Maison Blanche, Supervising Archt.; various materials will be needed for construction, landscaping, etc. Lately noted. (See Machinery Wanted—Park Development Materials.)

Mo., Kennett.—McKay Land Co., capital $18,000, incptd. by Virgil and J. C. McKay and W. C. Bragg.

N. C., Wenona.—G. T. Burrell Engineering & Construction Co. of Chicago, Oklahoma City, and other cities purchased 3000 acres in Washington County east of Wenona and will develop for farming; portion of tract is in timber and portion will require drainage before cultivation.

S. C., Columbia.—City is considering election on $20,000 bonds for park improvements; L. A. Griffith, Mayor. (See Road and Street.)

Tenn., Chattanooga. — Clifton Hills Co., capital $73,700, incptd. by Jas. F. Johnston, T. H. Lasley, L. M. McGanier and others.

Tex., Galveston.—City will establish Morris Lasker Memorial Playground; cost $65,000 for ground and buildings; city gives ground, value $50,000; E. Lasker donates $15,000; designs by Myron A. Kesner; improvements to include swimming pool, pavilion and gymnastic apparatus; work supervised by Stowe & Stowe, Archts., Galveston.

Va., Big Stone Gap.—Unaka Development Co. incptd. with $25,000 capital.

LUMBER MANUFACTURING

Ala., Wetumpka.—Rollins-Williams Lumber Co. organized; L. F. Rollins, Prest.; C. V. McMorris, V.-P.; A. E. Williams, Secy.; operates 2 saw and planing mills; build additional mill; capacity 40,000 ft. daily. (Lately noted incptd., capital $5000.)

Fla., Clearwater.—J. Bornstein, Prest. Republic Real Estate & Construction Co., will build saw and planing mill.

Fla., Clermont.—Lake Region Timber Co., R. L. Bracey, Mgr., states has machinery for sawmill lately noted to be built; will need dredge machinery. (See Machinery Wanted—Dredging Machinery.)

Fla., Kissimmee. — J. K. Singletary of Bradentown, Fla., purchased 5000 acres timber land and will erect sawmill near Campbell Station; daily capacity 20,000 ft.; purchased machinery.

Fla., Miami.—Georgia Lumber & Supply Co. incptd. with $35,000 capital; C. J. Martin, Prest.; M. L. Shaw, 1st V.-P.; A. T. Marchman, Secy.; J. U. Cureton, Treas.

La., Bogalusa. — Great Southern Lumber Co. will meet Oct. 15 to vote on $50,000 expenditure for hardwood mill and $50,000 for additional by-product plant; utilize hardwood on present property. (Lately noted.)

La., Pawnee.—Vernon Parish Lumber Co. organized; J. H. Kurth, Jr., Prest.-Mgr.; S. W. Henderson, V.-P.; J. L. Spotten, Secy.; erect building; commencing construction in 60 days; band and circular mill; daily capacity 125,000 ft. long leaf yellow pine; address machinery proposals to J. H. Kurth, Jr., Mgr. Lately noted purchasing timber lands. (See Machinery Wanted — Sawmill Machinery.)

La., Westdale.—J. R. Shugill, 310 N. 3d St., Monroe, La., contemplates building sawmill and shingle mill; capacity 40,000 ft.; machinery mainly supplied.

Miss., Meridian.—Lauderdale Lumber Co., capital $5000, incptd. by J. E. Tartt, H. S. Wilson and Jno. T. Moseley.

Tenn., Kingsport. — White Oak Veneer & Lumber Corp. will rebuild plant noted damaged by fire at loss of $50,000.

Tenn., Knoxville.—Rutzler-Paig Co. incptd. with $10,000 capital by Lee J. Connors, Geo. F. Rutzler, Geo. Paig and others.

Tex., Nona.—Benton Lumber Co. incptd. with $30,000 capital by E. B. Marshall, Nona; J. B. Hooks, Kountze, Tex.; W. J. Bracken, Fletcher, Tex., and Thos. J. Baten, Beaumont, Tex.

Va., Fort Blackmore. — J. S. McConnell Lumber Co., Appalachia, Va., will install circular mill, daily capacity 10,000 to 15,000 ft. hardwood lumber; mainly white oak; also poplar, beech, walnut and hickory. (Lately noted.)

W. Va., Elkins.—Sturm Lumber Co. incptd. with $10,000 capital by T. E. Sturm, M. E. Mattern, M. N. Wilson and others.

W. Va., Huntington. — Universal Lumber Co. incptd. with $10,000 capital by O. F. King, C. H. Sharitz, M. Dial and others.

METAL-WORKING PLANTS

Mo., Kansas City—Steel Tubing, etc.—Kansas City Sheet Steel & Tube Co., capital $1,000,000, chartered by W. S. Randall of Portland, Maine; F. A. Armstrong of Wilmington, Del., and Clement M. Egner of Elkton, Md.

Va., Richmond — Sheet Metal, etc. — Richmond Engineering Co., 12 S. 8th St., Ernst W. Farley, Prest., and Hugh S. Grigsby, Mgr., let contract to R. M. Anderson & Co., Richmond, to erect 2-story brick mill-construction building covering 10,000 sq. ft.; estimated cost $15,000; plans by Marcus Hallett, Richmond; install plate, bar and sheet-metal and general machinery equipment; production includes stacks, tanks, breechings, hand forgings, blow piping, heating and plumbing; will locate its several branches on this lately-purchased 2-acre tract.

W. Va., Parkersburg — Chains. — Virginia Chain Co. incptd. with $40,000 capital by John Marshall, C. D. Ferrer, M. E. Hiehle, E. A. Brast and J. W. Romine.

MINING

Ark., Yellville — Lead and Zinc. — Liberty Lead & Zinc Co., Tulsa, Okla., purchased lease on Willett mine and will build 150-ft. mill; machinery purchased.

Mo., Joplin—Lead and Zinc.—Olean-Joplin Mining & Development Co. increased capital from $50,000 to $100,000.

Okla., Afton. — Lucky Seven Mining Co. incptd. with $99,000 capital by W. E. Byrd, J. C. Tucker and M. A. Painter.

Okla., Collinsville. — Fidelity Mining Co. incptd. with $10,000 capital by W. C. Stewart, W. E. Smith and C. T. McCarty.

Okla., Miami.—Mineral Central Mining Co. incptd. with $15,000 capital by B. A. and C. W. Hall and L. A. Daniels.

Okla., Miami.—Bill Boy Milling Co., capital $200,000, incptd. by Clyde C. Poole, R. M. Poole and L. E. Nabors.

Okla., Miami.—Wabash Royalty & Mining Co., capital $10,000, incptd. by H. Holdeman, Wm. Lightfoot and Lon Edwards.

Okla., Miami. — Mary Will Mining Co. incptd. with $6000 capital by J. L. Hawthorne, Ned Calkins, both of North Miami, and J. W. Holman, Commerce, Okla.

Okla., Miami. — John Mining Co. incptd. with $6000 capital by J. L. Hawthorne, Ned Calkins, both of North Miami, and J. W. Holman, Commerce, Okla.

Okla., Miami. — Black Eagle Mining Co. incptd. with $150,000 capital by M. C. Hays, Miami; W. G. Phillips and J. B. Milan, both of Chelsea, Okla.

Okla., Miami.—Haynes Mining Co. incptd. with $6000 capital by J. L. Hawthorne, Ned Calkins, both of North Miami, and J. W. Holman, Commerce, Okla.

Okla., Oklahoma City.—Mineral Belt Development Co. incptd. with $50,000 capital by C. F. Prouty, N. E. Cole and V. E. McInnes.

Okla., Oklahoma City—Lead and Zinc.—McFadden Lead & Zinc Co., capital $12,000, incptd. by J. A. Ryan and C. R. Day of Oklahoma City, and Waldo Thorn of Shawnee, Okla.

Okla., Skiatook.—Grand River Mining Co. incptd. with $8000 capital by D. G. Williams, B. C. Manering, both of Skiatook, and S. Burns, Sapulpa, Okla.

Tex., Houston — Sulphur. — Southern Sulphur Co., incptd. with $300,000 capital by Jno. H. Kirby, B. F. Bonner and H. L. Fagin.

W. Va., Parkersburg—Grind Stone.—Constitution Grindstone Co. incptd. with $10,000 capital by Fergus C. O'Connor, S. D. Camden, C. D. Forrer and others.

MISCELLANEOUS CONSTRUCTION

Fla., Jacksonville.—Duval County will extend canal at county's shell bed on Fort George Island 550 ft.; width 50 ft. at top; depth 6 ft. at high water; cut-off and dredge 6000 cu. yds. dirt from points which project into Pepper Island Creek; County Commrs. receive bids until Oct. 1; Frank Brown, Clerk County Commrs. (See Machinery Wanted—Dredging.)

Fla., Lake Worth—Sea Wall.—Town will construct sea wall 2000 ft. long, to include: Spoil bank, 4340 cu. yds.; general fill, 72,960 cu. yds.; rock facing or embankment, 1050 cu. yds.; landing dock, length not determined; guard railing around margin of embankment, 2480 lin. ft.; A. H. Thomas, Town Clerk, receives bids until Sept. 25. Alex Drake, Mayor. (See Machinery Wanted—Sea Wall Construction.)

Ga., Brunswick.—Georgia Coast & Piedmont R. R. Co., D. C. Smith, Gen. Mgr. for receivers, will fill in about 2 mi. trestle. (See Railway Shops, Terminals, Roundhouses, etc.)

La., Benton—Levee.—State Board of Engineers opened bids for construction proposed Willow Chute levee; about 200,000 cu. yds. work; Byrd & Nattin are lowest bidders.

La., New Orleans—Levee.—Louisiana State Board of Engrs., Frank M. Kerr, Ch. State Engr., 213 New Orleans Court Bldg., asks bids until Sept. 26 to construct Bayou Lamoque Levee, 17,000 cu. yds.; also, Ostrica to Fort St. Philip Levee, 35,000 and 10,000 cu. yds., respectively; total, 45,000 cu. yds.; wooden revetment, 10,700 lin. ft. (See Machinery Wanted—Levee.)

La., New Orleans—Levee. — Orleans Levee Board Commrs., Eugene J. LeBoeuf, Secy., 201 New Orleans Court Bldg., let lately-noted contract to Theo. O. Hotard, 320 Opelousas Ave., Algiers, La., for levee work in Orleans Parish, 12.5 mi. from city of New Orleans; 165,000 cu. yds. earthwork, and removal and resetting of 770 lin. ft. wooden revetment; contract price, $24,403, or 14.79 per cu. yd.; Engr., C. T. Rayner, care of Orleans Levee Board.

La., Port Barre—Levee.—Commrs. Atchafalaya Basin Levee Dist., Thos. G. Erwin, Secy., asks bids until Sept. 26 at office Board State Engrs., 213 New Orleans Court Bldg., New Orleans, La., to construct Port Barre South Levee, Parishes of St. Landry and St. Martin; new levee; 375,000 cu. yds. (See Machinery Wanted—Levee Construction.)

Tenn., Memphis — Heating Plant. — Van Vleet-Mansfield Drug Co. will install heating plant; cost $12,000.

Tenn., Memphis—Levee.—Mississippi River Com., First and Second Dists., Custom House, Memphis, Tenn., will construct 70,000 cu. yds. earthwork in Upper St. Francis Levee Dist.; bids until Sept. 18. (See Machinery Wanted—Levee Construction.)

Tenn., Memphis—Levee.—Mississippi River Com., U. S. Engr., Office, Custom House, let contract at $493,150 and $46,550, respectively, to Roach-Stansell Lowrance Bros. Co., Memphis, for levee work in lower St. Francis Dist. and White River Dist.; at $178,100 to H. B. Blanke, Vicksburg, for levee work in upper St. Francis Dist.; 3,400,000 cu. yds. earthwork. (Previously noted.)

Tex., Corpus Christi—Waterfront Improvements. — City, Roy Miller, Mayor, advises Manufacturers Record: Engineering department now preparing plans for proposed bay-front improvements; probably several weeks before plans are completed. (Previously noted.)

MISCELLANEOUS ENTERPRISES

Ark., Beattie—Hardware.—Beattie Hardware Co. increased capital from $10,000 to $25,000.

Ark., Siloam Springs—Cattle.—Ozark Jersey Co., capital $10,000, incptd.; J. Alvin Brown, Prest.; Juanita A. Brown, V.-P.; Mabel Brown, Secy.-Treas.

Fla., Gainesville—Printing.—Pepper Printing Co. incptd. with $30,000 capital; W. M. Pepper, Prest.; D. M. Tomlies, V.-P.; G. W. Welch, Secy.-Treas.

Fla., Vero—Contracting.—Seminole Building Corporation incptd. with $50,000 capital; A. W. Young, Prest.; A. M. Hill, V.-P.; C. J. Gore, Secy.; W. E. Sexton, Treas.

Ga., Ben Hill—Grain Elevator.—Ben Hill Co. will erect grain elevator; 5 stories; automatic machinery; capacity 20,000 bu.; handle 1500 bu. grain per hour.

Mo., Kansas City — Publishing. — Farm Tractor Publishing Co., 113 E. 31st St., organized; Arthur Stevenson, Prest.; Fred Sands, V.-P.; W. R. Gough, Secy.; T. G. Gough, Treas.; acquired Farm Tractor Magazine of Dallas, Tex.; continue publication in Kansas City. (Lately noted incptd., $10,000 capital.)

Mo., St. Louis—Cleaning and Dyeing.—Mutual Cleaning & Dyeing Co. increased capital from $2000 to $4000.

N. C., Alliance—Potato Drying.—Alliance Produce Co. incptd.; will build potato-drying plant.

N. C., Asheboro—Newspaper Publishing.—Bulletin Publishing Co. incptd. with $5000 capital by L. D. Mendenhall, J. F. Hughes, C. L. Amick.

N. C., Mount Sterling — Construction.—Dyer Construction Co., capital $10,000, incptd. by C. Boicea, J. W. Bell and others.

N. C., Weeksville—Transportation.—Weeksville Transportation Co., capital $25,000, incptd. by O. S. Wright and H. Cartwright, Weeksville, and C. R. Pugh, Elizabeth City, N. C.

N. C., Wilmington—Printing, etc.—Harriss Printing & Advertising Co., 14 Princess St., incptd., $25,000 capital; Meares Harriss, Prest. and Gen. Mgr.; R. L. Pittman, V.-P.; Thos. Hill, Secy.; acquires and consolidates Harris Typewriting & Advertising Co. and Pittman McColl Co.; commercial printing, engraving, multigraphing and direct mail advertising; also public service typewriting.

S. C., Columbia—Abattoir.—City is considering election on $15,000 bonds for abattoir; L. A. Griffith, Mayor. (See Road and Street.)

Tex., Austin—Fire-alarm System.—City will vote on $40,000 bonds to install fire-alarm system. Address The Mayor.

Tex., Dallas—Electrified Water.—Electrified Water & Ice Co. will erect concrete building, cost $25,000; plans by C. H. Page & Bro., Austin, Tex. (See Ice and Cold-storage Plants.)

Tex., Houston—Printing.—Cummings & Son, capital $25,000, incptd. by Wm. Cumming, M. E. Foster, Fred. Fox and others.

Tex., Midlothian—Livestock.—Dees Land & Cattle Co. incptd. with $40,000 capital by T. M. Dees, W. E. Sowell and M. A. Dees.

Tex., San Antonio—Laundry.—New Process Laundry Corp., capital $35,000, chartered by Jos. Rosenfield, Sidney Turner, L. B. Haines and others.

Va., Richmond—Laundry.—T. & E. Laundry Co., R. L. Branner, Prest., 926 W. Broad St., let contract to C. H. Archer, 2515 Hanover Ave., Richmond, to erect 25x70-ft. brick building, cost $5269. (Lately noted to repair building.)

W. Va., Charleston—Hardware.—Wilkerson Hardware Co., capital $10,000, incptd. by W. V. Wilkerson, M. E. Wilkerson, E. A. Bohnert and others.

MISCELLANEOUS FACTORIES

Ala., Mobile — Shoes. — Imperial Shoe Co., capital $5000, incptd. by A. S. Denny, Mrs. A. S. Denny and W. M. Denny.

Ark., Fort Smith—Cots, Camp Furniture, etc.—Tucker Duck & Rubber Co., H. Temple Tucker, Prest., will install woodworking and sheet steel stamping machinery to manufacture cots, camp furniture, etc. Lately noted to enlarge plant to increase daily capacity to 2000 cots. (See Machinery Wanted—Woodworking Machinery, etc.)

D. C., Washington — Hairpins. — Sta-Rite Hairpin Co., capital $500,000, chartered by Norman T. Whitaker of Washington; Eugene Bland, Findlay, Ill., and Isaac B. Craig, Mattoon, Ill.

Fla., Tampa — Sugar Refinery. — Florida Brewing Co. is considering plans for remodeling brewery into sugar refinery.

Fla., Tampa—Beverages.—Tampa Bludwine Bottling Co. incptd. with $20,000 capital; R. W. Hutcheson, Prest.; W. H. Fowler, V.-P.; F. M. Nolan, Secy.-Treas.

Ga., Savannah — Turpentine. — Turpentine Tank & Storage Co. states relative to storage tanks to be erected. Contractors preparing to start foundations; ordered 5000-bbl. tank; need steel circular tank, preferably 250,000 gals. capacity, also pipe. Lately noted incptd., capital $15,000, by John R. Walsh and others. (See Machinery Wanted—Tank; Pipe.)

Miss., Vicksburg—Ice Cream.—Merchants & Farmers Cooperative Creamery Co. will establish ice-cream factory, etc. (See Ice and Cold Storage.)

Miss., Aberdeen—Sorghum.—B. Darracott will install steam-driven sorghum mill; hourly capacity of 3 tons sorghum, and daily acpacity of 150 gals. syrup; capacity of evaporator 25 gals. syrup; purchased equipment.

Mo., Moberly.—Monuments. — Central Missouri Monument Co. incptd. with $20,000 capital by J. R. Victor, J. T. Stephens and J. E. Mackland.

Mo., Joplin — Bakery. — Junge Baking Co. will build 2-story bakery.

Mo., Kansas City—Fiber Boxes.—Kansas City Fibre Box Co. increased capital from $50,000 to $100,000.

Mo., St. Joseph—Bakery.—Wank Baking Co. incptd. with $150,000 capital by Andrew Wank, R. A. Walker, Wm. M. Campbell and others.

Mo., St. Louis — Brooms, etc. — Riverside Broom & Mop Co., capital $1,200, incptd. by Martin J., Frank C. and John S. Brennan.

Mo., St. Louis—Creamery.—Union Butter, Ice & Mercantile Co., capitaal $15,000, incptd. by Arthur Deems and others. (See Ice and Cold-storage Plants.)

Mo., St. Louis—Macaroni Molds.—Ginevra Macaroni Mold Co. incptd. with $4000 capital by Guido Tanzi, Vito Gaetano, Salvatore and Josephine Viviano.

N. C., Newton — Men's Caps. — Hollingsworth Clothing Co. will install machinery to manufacture men's caps. (See Machinery Wanted—Cap-cutting Machinery, etc.)

Okla., Collinsville—Bakery.—City Bakery is reported to erect brick bakery.

Okla., Oklahoma City — Rubber. — Blanton Rubber & Mfg. Co., capital $10,000, incptd. by John R. Blanton, J. A. Matthews and M. W. Halmbacher.

S. C., Greenville—Textile Mill Supplies.—Norris Bros., increased capital to $100,000.

Tex., Beaumont—Macaroni.—Union Macaroni Co., capital $5000, incptd. by C. Lombardi, F. L. Lombardi and Thos. Lombardi.

Tex., Dallas—Automobile Locks. — Safety First Automobile Lock Co. incptd. with $25,000 capital; F. A. Spinnay, Prest.; J. E. Parker, V.-P.; H. M. Cunningham, Secy.-Treas.

Va., Ivanhoe—Carbide. — National Carbide Co. incptd. with $350,000 capital by S. M. Buck (Prest.), H. S. Brown, both of Bramwell, W. Va., and H. E. Gear, New York; purchased 22-acre site 1 mi. from Ivanhoe and will build plant to manufacture carbide, burn agricultural lime, etc.; leased lime quarry and will operate; has let contracts for construction and portion of equipment.

Va., Norfolk—Oxygen, etc.—Linde Air Products Co., 30 E. 42d St., New York, purchased site, and will build plant to manufacture oxygen and other air products for industrial purposes; ship in metal cylinders; Neff & Thompson, Archts., Norfolk.

Va., Richmond—Beverages.—Greater Richmond Bottling Corp. incptd. with $25,000 capital; Geo. E. Kline, Prest.; Jos. F. Kline, Secy.

Va., Richmond—Medicine.—Noah Products Corporation incptd. with $100,000 capital; P. G. Seward, Prest., Petersburg, Va.; J. P. Marchant, Secy., Richmond.

Va., Richmond—Taka-Kola.—Halifax Taka-Kola Bottling Corporation incptd. with $25,000 capital; Harry Lovell, Prest.; C. A. Nolan, Secy.

Va., Richmond.—Virginia Waste Materials Corporation incptd. with $25,000 capital; Edw. Bers, Prest.; Mordecai Scarlo, Secy.; both of Philadelphia, Pa.

Va., Roanoke—Envelopes.—Double Envelope Corporation incptd. with $10,000 capital; Jos. W. Bear, Prest.; S. T. Moorman, Secy.

W. Va., Harpers Ferry—Trunks, etc.—Harpers Ferry Trunk & Bag Co. incptd. with $5000 capital by Chas. T. Smith, Leo O'Bierne, Abraham Kaplon and others.

W. Va., Mullens—Bottling.—National Motor Co., Princeton, W. Va., will establish bottling works. (See Ice and Cold-storage Plants.)

W. Va., Mullins—Ice-cream Syrups, etc.—Magic Cola Ice & Bottling Corp. (lately noted incptd. with $75,000 capital) organized; B. D. Dunman, Prest.; I. S. Fine, Mullens, V.-P. and Mgr.; Wm. Rozzanico, Secy.; has plans by A. F. Wysong, Princeton, W. Va., for 48x200-ft. fireproof buildings, with asphalt built-up roofing and concrete floors; estimated cost, $25,000; steam heat; electric lighting; open bids Oct. 25; install 2 electric freight elevators; manufacture ice, ice-cream, beverages, fountain syrups and extracts; install machinery for capacity 30 tons ice per 24 hrs. and 500 gals. ice-cream, 2000 doz. bottles beverages, etc. (See Machinery Wanted—Ice Machinery; Ice-cream Machinery; Bottling and Syrups Machinery, etc.)

MOTOR CARS, GARAGES, TIRES, ETC.

Ark., Little Rock—Automobiles.—Creekmore Motor Co. incptd. with $10,000 capital by S. W. Creekmore, E. F. Creekmore and Ben. D. Kimpel.

Fla., Clearwater — Garage. — J. Bornstein, Prest. Republic Real Estate & Construction Co., contemplates building garage.

Fla., Miami — Autopeds. — Miami Autoped Co. incptd. with $10,000 capital by W. G. Peck, Roy Z. Miller and L. A. Mitchell.

Ga., Columbus—Automobiles.—Texas Motor Co. increased capital from $10,000 to $15,000; removed from Lagrange to Columbus.

Ga., Columbus—Garage. — C. L. Torbett will erect 2-story brick and wood building for garage and stockroom.

Ky., Kevil—Garage, etc.—W. L. Beck will rebuild garage lately noted burned; erect 50x100-ft. fireproof brick building; install machinery and tools for automobile repairing; also deal in accessories. (See Machinery Wanted—Machine Shop Equipment.)

La., Homer—Automobiles.—Claiborne Motor Co. organized with John W. Menifee, Prest.; Jas. Y. Allen, V.-P.; W. A. McKenzie, Secy.-Treas.

La., Leesville—Garage.—H. E. Werner will occupy garage to be erected by Noan Mills Co.; structure will be 60x100 ft.; brick; 1 story.

Mo., Kansas City—Automobiles.—Ad-A-Tire Co. incptd. with $20,000 capital by Jos. Steinberg, Geo. Nowick and Max Hurst.

N. C., Lenoir—Garage.—Rufus L. Gwyn, corner S. Main St. and Harper Ave., will erect new garage; use rolling steel doors, steel window frames, sash and wire glass. (See Machinery Wanted—Steel Doors and Window Frames, etc.)

N. C., Rocky Mount—Tires, etc.—Vulcanizing & Electric Co. (J. B. Green and D. B. Smith) erecting brick building; install vulcanizing and storage battery plant; deal in automobile tires and other accessories; advises Manufacturers Record: Let contract in August to D. J. Rose, Rocky Mount, for 25x90-ft. ordinary brick building; cost $4000; purchased all equipment.

N. C., Wilson—Automobiles.—Welfare Automobile Co. increased capital from $25,000 to $100,000.

Okla., Oklahoma City—Automobile Salesroom.—Security Motor Co. will occupy as automobile salesroom and service station, 4-story building to be remodeled.

Okla., Oklahoma City — Automobiles.—Van Noy Motor Sales Co. incptd. with $25,000 capital by F. B. Payne and F. L. Chiles.

Tenn., Gainsboro — Automobiles. — Draper-McCowley Co. incptd. by J. M. Draper, J. L. McCowley, R. L. McDearmond and others.

Tex., Abilene—Garage.—J. M. Radford and R. C. Lewis will erect garage; brick and stone; 50x120 ft.; cement floor; cost $10,000.

Tex., Dallas—Motor Trucks.—Motor Truck Sales Co., capital $20,000, incptd. by R. F. Duggan and G. E. Bergfield of Dallas, and J. A. Barton and E. H. Tatum of Denton, Tex.

Tex., Tomball — Garage. — J. C. Robinson, Mgr. Ford Automobile Agency, will erect garage.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ga., Brunswick.—Georgia Coast & Piedmont R. R. Co., D. C. Smith, Gen. Mgr. for receivers, will construct coal chute, fill about 2 mi. trestle across Altamaha Delta and purchase coaches and cars. (See Machinery Wanted—Cars.)

W. Va., Raleigh.—Chesapeake & Ohio Ry. Co.; F. I. Cabell, Chief Engr., Richmond, Va., advises relative to lately reported erection of engine-house and shop building: No such work under consideration.

ROAD AND STREET WORK

Ala., Birmingham.—City, Julian Kendrick, City Engr., will construct asphaltic concrete, corrugated concrete and plain concrete paving under Imp. Ord. No. 970-C; bids opened Sept. 18; plans and specifications on application. (See Machinery Wanted—Paving.)

Ark., Bentonville.—Benton County Commrs. have plans by State Highway Com., Little Rock, for Rogers-Huntsville Highway, 20 mi. to be in Benton County, costing $65,000, and 6 mi. in Washington County, costing $21,000; macadam construction.

Ark., Fayetteville. — Washington County Commrs. have plans by State Highway Com., Little Rock, for Rogers-Huntsville Highway, 6 mi. to be in Washington County, costing $21,000, and 20 mi. in Benton County, costing $65,000; macadam construction.

Ark., Russellville.—Pope County Commrs. are having surveys made for 37 mi. of road construction.

Fla., Kissimmee.—Osceola County will construct 9 mi. brick paving with concrete curb from corporate limits of Kissimmee to Polk County line; bids until Sept. 22; Ernest Mach, Chrmn. County Commrs. (See Machinery Wanted—Road Construction.)

Fla., Lake City.—Columbia County Commissioners ordered election for Oct. 9 to vote on $500,000 bonds to construct brick roads through county; if authorized, State Road Dept. will contribute $60,000; J. L. Markham, Clerk. (Date of election postponed from Sept. 25, lately noted.)

Fla., Miami.—City (lately noted contemplating $200,000 street paving) will contract for macadam streets; 4 equal contracts; $200,000 expenditure; bids until Sept. 20; Ellis A. Hoffpanier, Engr. (See Machinery Wanted—Paving.)

Fla., Zolfo.—Town voted $15,000 bonds to pave streets with vitrified brick, extend sewer system, equip city hall and improve city park. Address Town Clerk. (Previously noted.)

Fla., Tavares.—Lake County will not vote on $500,000 bonds for road construction. (Recent report incorrect.)

Ga., Atlanta.—State Highway Com., T. E. Patterson, Chrmn., Columbus, Ga., will expend $180,000 to improve Atlanta-to-Macon Highway.

Ky., Harlan.—Harlan County, R. Wiley, Commr. of Public Roads, Frankfort, Ky., will construct Pine Mountain Rd.; plans not yet completed.

La., Minden.—City, G. S. Carroll, Secy., asks bids until Oct. 2 for paving part of N. Main St. with No. 1 2-in. V. P. paving blocks. (See Machinery Wanted—Paving.)

La., New Iberia.—City votes Oct. 16 on tax for roads involving about $75,000; also will pave 14 mi. cement sidewalks on cross streets of southern section, in addition to those provided in tax. Address The Mayor.

La., New Roads.—Pointe Coupee Parish, State Highway Dept. in charge, let lately-noted contract to Grigsby & Entzminger, Bristol Hotel, Houston, Tex., to construct 33 mi. gravel road; $125,000 available.

La., Rayville.—City will issue $6000 municipal improvement bonds. Address The Mayor.

La., Thibodaux.—Lafourche Parish Police Jury organized Road Dist. No. 3 and ordered election for Oct. 23 to vote on $25,000 bonds to construct roads.

Md., Baltimore.—Maryland State Roads Com., Clyde H. Wilson, Secy.; 601 Garrett Bldg., Baltimore, asks bids until October 2 to construct 2 sections State highway: Frederick County 2 mi. concrete, Contract F-27. Allegany County, 2.33 mi. concrete, Contract A-14. (See Machinery Wanted—Road Construction.)

Md., Cumberland.—City will construct concrete sidewalks and reconstruct brick sidewalks at Green Street subway; also construct concrete wall along Chase St., between Green and Paca Sts.; work embraces construction of 3450 sq. ft. concrete sidewalks, reconstruction 2340 sq. ft. brick sidewalk, also construction brick wall embracing 110 cu. yds. concrete and necessary excavating; bids opened Sept. 17; also opens bids same day to construct concrete curb and reset stone curb on Davison St., from Decatur St. northward; embraces construction 410 ft. concrete curb and 276 lin. ft. stone curb to reset; plans and specifications at office Ralph L. Rizer, City Engr. (See Machinery Wanted—Paving; Curbing.)

Md., Elkton.—Cecil County Commrs., P. M. Groves, Clerk, will build section of State Highway along public road between Miller's Corner and Elk Mills, 1½ mi.; bids opened Sept. 20; plans and specifications and blank proposal forms from State Roads Com., 601 Garrett Bldg., Baltimore, Md. (See Machinery Wanted—Road Construction.)

Miss., Rulevile. — Sunflower County let contract to W. A. Morrison, Grenada, Miss., to load, haul, spread, roll and prepare subgrade on 25 mi. gravel road.

Miss., Tunica—Tunica County let contract to N. A. Dawson, San Antonio, Tex., to construct 41 mi. grading, surfacing, culverts, etc.; cost $220,000; L. W. Mashburn, Engr., Clarksdale, Miss. (Previously noted.)

Mo., Joplin.—City let contract to Spooner Road Oil Co., 802 Chestnut Ave., Joplin, to resurface 5235 sq. yds. brick pavement on Wall Ave. and 4845 sq. yds. on Fifth St.

Mo., Kansas City.—Park Board let contract at $65,000 to McTiernan & Halpin, Kansas City, to pave S. Paseo from Meyer Blvd. to city limits; work includes two 20-ft. roadways of bituminous macadam pavement.

Mo., Platte City.—Platte County, Parkville Road Dist., voted $20,000 bonds to construct roads. Address County Commrs.

Mo., St. Joseph.—Buchanan County will probably vote on $2,000,000 bonds to construct roads. Address County Commrs.

N. C., Durham.—City, K. B. Ward, Chief Engr., contemplates additional 50,000 yds. paving. (See Machinery Wanted — Paving Materials.)

N. C., Durham.—City let contract at $141,776.50 to Ely Construction Co., Charlotte, N. C., to pave 50,000 sq. yds. streets with sheet asphalt (lake); work includes Watts, Trinity Ave. and Duke St.; K. B. Ward, Chief Engr. (Lately invited bids.)

N. C., Marion. — North Cove Township, McDowell County, issued $50,000 bonds to build 20-mi. road from Marion Township line to point near Spruce Pine, connecting with road leading via. Elizabethton, Tenn., to Johnson City, Tenn. Address County Commrs.

Okla., Ardmore.—Carter County, Hewett Township, will issue $70,000 bonds to construct roads. Address County Commrs.

S. C., Columbia.—City is considering election on $315,000 bonds as follows: Street improvements, $260,000; park improvements, $20,000; city abattoir, $15,000; market, $20,000; L. A. Griffith, Mayor.

S. C., McCormick.—McCormick County, H. E. Worrell, County Highway Engr., advises Manufacturers Record concerning previously-noted improvements: Have available the proceeds of $175,000 bond issue, which, with additional from Federal Aid, etc., will total $200,000, for grading, top-soiling and building concrete drainage structures; Ross & Plott, Greensboro, N. C., (noted in August as receiving contract) commenced work on grading and draining about 60 mi. roads, to be graded to 26 and 28 ft. width, with 18-ft. topsoil; J. H. Lyon, County Supvsr., will expend about $7000 on maintenance equipment. (See Machinery Wanted—Road Machinery.)

S. C., Spartanburg.—Spartanburg County, Spartanburg Township, John A. Law, Chrmn. County Highway Com., will construct National Highway from Spartanburg, toward Greer, 2.84 mi.; Section A; surface width 20 ft.; concrete surfacing, asphaltic concrete or monolithic brick pavement; bids until Sept. 19; Engr., Reid Tull, Spartanburg. (Lately noted.)

S. C., Spartanburg.—Spartanburg County Highway Com., Reid Tull, Chief Engr., let contract to Blankenship & Son for 8.8 mi. top-soil road; $124,500 available. (Bids lately noted.)

Tenn., Nashville.—City votes Sept. 27 on $180,000 bonds to open, widen, extend and pave streets and alleys, and $25,000 to provide fund to construct gutters. Address City Commrs.

Tex., Austin.—City will vote on $50,000 bonds to improve streets. Address The Mayor.

Tex., Barstow.—Ward County, Road Dist. No. 1, votes Oct. 13 on $60,000 bonds to construct roads. Address County Commrs.

Tex., Corsicana. — Navarro County, Road Dist. No. 1, voted $200,000 bonds to construct roads. Address County Commrs. (Lately noted to vote.)

Tex., Dallas. — Dallas County, Chas. E. Gross, County Auditor, will gravel Miller's Ferry Rd., resurface Richardson from Vickery to Richardson, and Maple Avenue Rd. from city limits to cross on M. K. & T. R. R., and California crossing road from

Elm Fork River to Hackberry schoolhouse, and scarify and repair East Pike Rd., beginning at city limits to foot of hill just east of White Rock Creek; bids opened Sept. 20; plans on file with J. F. Witt, County Engr. (See Machinery Wanted—Road Construction.)

Tex., Daingerfield.—Morris County, Omaha Precinct, voted $35,000 bonds to construct roads. Address County Commrs.

Tex., Eastland. — Eastland County, Road Dist. No. 1, voted $130,000 bonds to construct Fort Worth-El Paso Highway to county limits.

Tex., Fort Worth.—Tarrant County Commissioners will build 5-mi. tarvia pike 21 ft. wide from city limits to Nine-Mile bridge; cost $15,000.

Tex., Orange. — County Commrs. ordered vote (in Precinct No. 4) Oct. 9 on $30,000 bonds to shell and gravel section of proposed Government road from Joplin, Mo., into gulf coast country.

Tex., Paris.—City votes October 9 on $30,000 bonds to widen and pave streets. Address The Mayor.

Tex., San Angelo. — Tom Green County Commrs. will order election to be held between Oct. 20 and 25 to vote on $200,000 bonds to construct roads. (Amount reduced from $250,000, amount lately noted.)

Tex., Snyder.—Scurry County Commrs. ordered election for Oct. 13 to vote on $100,000 bonds for roads.

Va., Hampton.—Elizabeth City County will probably let contract at about $60,000 to Hunter A. Tignor, Hampton, to build Kecoughton Rd.; concrete. (Previously noted.)

W. Va., Charleston. — Kanawha County Commrs. will issue $90,000 bonds to construct roads in Lounden Dist.

W. Va., Huntington.—City Commrs., O. H. Wells, Commr. Streets, Sewers, etc., will grade, pave and curb certain streets, also construct sewer in Richmond St., from 4th St. southerly 235 ft., 12-in. vitrified sewer pipe; also sewers in alley between Jefferson Ave. and B. & O. R. R., from 7th St. to 5th St., and in alley between Champion Ave. and B. & O. R. R. to west line Kyle Kincaid property, 1445 ft., 12-in. vitrified sewer tile; bids opened Oct. 1; plans, profiles, etc., at office A. B. Maupin, City Engr. (See Machinery Wanted — Road Construction; Sewer Construction.)

W. Va., Parkersburg.—City, Wm. M. Hall, City Engr., opened paving bids; Graham Bros., Parkersburg, are low bidders for paving Ann, Spring and Charles Sts.; C. Kennedy & Son, Parkersburg, low bidders for paving George, 20th, 22d and Covert Sts.; total amount of low bids for vitrified brick on reinforced concrete base $51,040. (Bids lately noted.)

W. Va., Stealy Heights, P. O. Clarksburg.—City, D. L. Mitchell, Mayor, voted $15,000 bonds for street improvements; mainly concrete construction; about 7000 yds.; open bids Oct. 12; Engr., C. C. Fettro. (See Machinery Wanted—Paving.)

SEWER CONSTRUCTION

Fla., Zolfo.—Town voted $15,000 bonds to extend sewer system, etc. Address Town Clerk. (See Road and Street Work.)

Miss., Magee.—Mississippi State Tuberculosis Sanatorium, Bem Price, 518 Empire Bldg., Birmingham, Ala., Archt., will install sewer disposal plant. See Electric Plants. (See Machinery Wanted—Sewerage-disposal Plant.)

Mo., Kansas City.—City let contract to Michael Walsh, Kansas City, to construct Troost Avenue truck line sewer from 50th St. to 64th St.; cost $165,000.

Mo., Kansas City.—City let contract at $18,437 to Halpin-Boyle Construction Co., Kansas City, to construct district sewers in Dist. 438, Sewer Division No. 5.

Okla., Miami.—City will vote on $80,000 bonds for storm sewers and $20,000 for sanitary sewers; Hughes Engineering Co., Engr. (See Water-works.)

Okla., Purcell.—City will improve sewerage system; W. G. Blanchard, Mayor.

Okla., Tulsa.—City will construct previously-noted sanitary sewers, including laterals, connections and other appurtenances in Sewer Dists. Nos. 127, 120 and 129; plans, profiles and specifications at office H. H. Wyss, City Engr.; bids received at office Frank Newkirk, City Auditor, until Sept. 20. (See Machinery Wanted—Sewer Construction.)

Tex., Austin.—City will vote on $185,000 bonds to build sewage-disposal plant and $40,000 bonds to extend sewer system. Address The Mayor. (Lately noted.)

Va., Richmond.—City, Chas. E. Bolling, City Engr., will construct sewer in Buchanan St., between Accommodation and Fairfield; bids opened Sept. 14.

W. Va., Huntington.—City Commrs., O. H. Wells, Commr. Streets, Sewers, etc., will grade, pave and curb certain streets, also construct sewer in Richmond St. from 4th St. southerly 235 ft., 12-in. vitrified sewer pipe; also sewers in alley between Jefferson Ave. and B. & O. R. R., from 7th St. to 5th St., and in alley between Champion Ave. and B. & O. R. R. to west line Kyle Kincaid property, 1445 ft., 12-in. vitrified sewer tile; bids opened Oct. 1; plans, profiles, etc., at office A. B. Maupin, City Engr. (See Machinery Wanted—Paving; Sewer Construction.)

SHIPBUILDING PLANTS

Ga., Brunswick.—United States Maritime Corp. has plans for constructing 6 shipways; large drydock; small drydock; 1800 ft. of dock for rigging, fitting and repairing vessels; dredging basin 1500 ft. long and 250 ft. wide; foundry; woodworking plant; mold loft; storage warehouse for materials; steel fabricating mill; power-house; machine shop. (In July reported organized with $2,500,000 capital, etc.; Thos. Hampton, V.-P., 502 Union Savings Bank Bldg., Washington, D. C.)

Ga., Brunswick. — American Shipbuilding Co., executive office, 11 Broadway, New York, increased capital from $50,000 to $500,000. (Lately noted to build 3 additional marine ways, shop, other buildings, plant to fabricate steel for shipbuilding, etc.)

Md., Baltimore.—Redman-Vane Shipbuilding Co. organized by J. C. Redman and A. P. Vane; purchased shipyard of J. S. Beacham & Bro.; property includes water frontage 254 ft., 290 ft. on Key Highway, steam railway, 2 marine railways, boat shop, blacksmith shop, spar sheds, block shops, etc.; plans improvements to include adding to machine equipment and installing facilities to repair and equip power craft.

Miss., Gulfport. — Gulfport Ship Building Co. chartered with $50,000 capital; W. T. Stewart, Prest.; B. E. Eaton, V.-P.; J. A. Bandi, Secy.-Treas.; T. M. Favre, Mgr.; J. E. Gordon, Purchasing Agent. (Supersedes recent item, which was partly erroneous.)

S. C., Charleston.—Valk & Murdoch Co. will construct sectional floating drydock at head of its docks on Cooper River; plans include constructing basin 450x100 ft. in overall dimensions, capable of handling vessels of 7500 tons or more; structure wood and steel; construction (in sections) to permit making shorter or longer; dock sides 43 ft., allowing vessels drawing 22 ft. to enter; will accommodate vessels 500 ft. long with 80-ft. beam. (Lately noted.)

TELEPHONE SYSTEMS

Mississippi.—Mississippi Valley Telephone Co., capital $100,000, chartered by B. F. Kimball, R. B. Hall and A. L. Epstein, all of Chicago.

Va., Charlotte Courthouse. — Charlotte Telephone Co., capital $5000, incptd.; D. D. Lester, Jr., Prest.; E. B. K. Lester, Secy.-Treas.; construct telephone system in Charlotte County.

TEXTILE MILLS

Ga., Marietta—Hosiery.—Kennesaw Hosiery Co. organized with $40,000 capital; B. G. Brumby, Prest.; W. A. Dupree, V.-P.; W. M. Murray, Secy.-Treas.; leased building; manufacture half-hose, probably 176-needle; install machinery for 500 doz. daily capacity; electric drive; machinery cost $23,000. (Mr. Brumley previously noted to establish mill.)

Ga., Roswell—Cotton Yarns.—Roswell Mfg. Co. increased capital from $196,000 to $450,000.

Miss., Natchez—Cotton Products.—Natchez Mfg. Co., capital $150,000, incptd. by F. J. Duffy and E. E. Brown of Natchez, and J. W. Sanders of Meridian, Miss.

N. C., Charlotte—Hosiery.—Defiance Sock Mill will add 45 knitting machines; purchased this equipment.

N. C., Graham—Knit Goods.—White Cotton Co. organized; Wm. E. White, Prest.; S. S. Holt, Secy.-Treas.; leased building; install 50 knitting machines, electric-power drive, etc., costing $7500; purchased this equipment. (Lately noted incptd.)

N. C., Salisbury—Cotton Damask.—R. Lee Mahaley will install 24 looms in building already constructed; manufacture cotton damask.

N. C., Shelby—Hosiery.—Blanche Hosiery Mills organized by J. G. Dudley and Garland McBrayer; establish mill in South Shelby; purchased 10 knitting machines.

S. C., Wellford — Cotton Yarns. — Fort Prince Spinning Co. incptd. with $50,000 capital; Alfred Moore, Prest.; John C. Cleveland, V.-P.; H. M. Cleveland, Secy.-Treas.

Tex., Houston—Absorbent Cotton and Artificial Silk.—Texas Textile Co., 1111 Union Bank Bldg., organized with $250,000 capital; B. N. Garrett, Prest.; J. B. Bagley, V.-P.; C. A. Lewis, Secy.-Treas.; Fred. Wide, Engr.-Archt.; construct 200x60-ft. brick building; open bids in Dec.; install electric-driven mill machinery costing $50,000; daily capacity 2000 lbs. absorbent cotton and 1000 lbs. artificial silk. Fred. Wide was lately noted as to establish absorbent cotton, etc., mill. (See Machinery Wanted—Motors; Cotton Machinery; Silk Machinery.)

Va., Springwood—Cotton Products.—Jasper Miller (of Jasper Miller & Son, cotton waste and linters, Charlotte, N. C.) advises Manufacturers Record: Not yet organized or ready to make announcements relative to Springwood mill proposition; plans progressing; C. A. Mess, Hydr. Engr., Charlotte. Lately noted as proposing organization of $300,000 corporation to build cotton mill and hydro-electric plant. (See Hydro-Electric Plants.)

Va., Winchester—Woolen Goods.—Winchester Woolen Mills organized; Geo. B. Dunham, Prest., Chicago; Clifford D. Crim, Secy.; Shirley Carter, Treas.; both of Winchester; purchased Winchester Woolen Mills; will triple capacity. (Lately noted chartered with $50,000 capital.)

WATER-WORKS

La., Vinton.—Vinton Water, Light & Power Co., J. N. Wetherill, Secy., will install water system at cost of $25,000; construction bids opened Sept. 15; Engr., X. A. Kramer, Magnolia, Miss. (Lately noted.)

Miss., Magee.—Mississippi State Tuberculosis Sanatorium, Bem Price, 518 Empire Bldg., Birmingham, Ala., Archt., will install water-works. See Electric Plants. (See Machinery Wanted—Water-works.)

Okla., Beaver. — City plans to issue $17,000 bonds to build water system. Address The Mayor.

Okla., Indiahoma.—City votes Sept. 28 on $15,000 bonds to build water-works. Address The Mayor.

Okla., Miami.—City will vote on $300,000 bonds, to include $45,000 for water mains and electric-light extension, $80,000 storm sewers, $20,000 sanitary sewers and $10,000 fire-fighting equipment; Hughes Engineering Co., Engr. (Previously noted.)

Tenn., Lebanon.—City votes Oct. 6 on $25,000 bonds to build water-works and electric-light plant. Address The Mayor.

Tex., Abilene.—City engaged J. D. Trammell of Fort Worth as consulting engineer for Elm Creek reservoir construction. E. N. Kirby, Mayor. (Lately noted.)

Tex., Valera.—Gulf, Colorado & Santa Fe Ry., F. G. Pettibone, Gen.-Mgr., Galveston, Tex., appropriated $117,487 to construct reservoir and pipe line.

Tex., Waco.—Water Commission, E. L. Fulkerson, Secy.-Mgr., appointed N. Werenskiold, Hydraulic Engr., Dallas, Tex., to prepare estimate for construction of reservoir with capacity 5,000,000 to 8,000,000 gal. (Previously noted.)

Va., Newport News.—Newport News Light & Water Co. let contract at $500,000 to Roberts Filter Mfg. Co., 6th St. and Columbia Ave., Darby, Pa., for filter plant.

W. Va., Fairmont.—City, Ira P. Smith, Water Commr., Municipal Bldg., contemplates expending $40,000 within next 2 years on improvements to water system; capacity to be 6,000,000 gals. per 24 hours; specifications not completed; earth reservoir, with concrete lining; may install electrically-driven 4-stage centrifugal pump and filtration system; Engr., Shrewsbury B. Miller, care of Jacobs Bldg., Fairmont. (See Machinery Wanted—Pipe.)

WOODWORKING PLANTS

Ark., Jonesboro—Staves.—Cate Lanieve Co. acquired 1280 acres timber land and will build stave mill.

Ky., Paducah.—Hardy Buggy Co. will rebuild plant previously reported burned.

La., Westdale—Shingles.—J. R. Shugill, 310 N. 3d St., Monroe, La., contemplates building shingle and sawmill. (See Lumber Manufacturing.)

Miss., Natchez—Boxes.—National Box Co., Chicago, let contract to remove 15,000 cu. yds. earth for erection of $125,000 factory; A. H. Cotten, Supt. of plant. (Previously reported to establish $75,000 box factory.)

Mo., St. Louis—Boxes.—St. Louis Box Factory incptd. with $40,000 capital by Montague Lyon, Geo. Benos, Frank W. Greene and Thos. J. Hoolan.

Tenn., Kingsport.—White Oak Veneer & Lumber Corp. will rebuild plant reported burned at loss of $50,000.

Tenn., Knoxville — Tables and Chairs. — Knoxville Table & Chair Co. incptd. by J. C. Talley, J. E. Talley, T. L. Pryor and others; increased capital from $100,000 to $200,000.

Tex., Waco — Handles. — Geo. W. Pittman Co. will build handle factory.

Va., Petersburg — Shooks. — Petersburg Shook Co., 909 American National Bank Bldg., Richmond, Va., organized; L. H. Swan, Prest.; J. R. Paschall, Treas.-Mgr.; has plant; will install shook machinery; daily capacity 2 cars. (Plant of Petersburg Wood Supply Co. lately noted purchased by J. R. Paschall and Lewis H. Smith.)

FIRE DAMAGE

Ala., Anniston. — Building occupied by Stickney Bottling Works and Graves Transfer Co.

Ala., Tuscumbia.—Mercantile Bldg., owned by Mrs. W. E. Aycock; loss $10,000.

Ark., Dermott.—A. T. Bowden's dwelling; loss $6000.

Ark., Wynne.—Wynne Wholesale Grocery Co.'s warehouse; loss on building and contents $35,000 to $40,000.

Fla., Melbourne.—E. H. Williams' residence.

Fla., Tampa.—Warehouse owned by C. C. Wolfe, Jacksonville, Fla.; loss $3000 to $5000.

Ga., Kirkwood.—Verlin A. Kirven's apartment-house on Sutherland Drive.

Ga., Rome.—Fred. Averette's dwelling on Black's Buff Rd., owned by State Mutual Life Insurance Co.; loss $12,000.

Ga., Trenton.—J. D. Jarrett's grist mill, loss $7000; I. H. Wheeler's store, loss $3000.

Ky., Lexington.—E. L. Martin & Co.'s warehouse, owned by W. P. Richardson; reported loss $50,000.

Ky., La Grange.—Oldham Bank & Trust Co.'s building; M. Mundlock's residence.

Ky., Mayfield.—W. D. Roberts' residence; loss $3000.

Ky., Middlesboro.—John Blankenship's residence.

La., Bunkie. — Leinster Plantation Co.'s sugar refinery; loss $200,000.

La., New Orleans.—Hibernia Bank Bldg.; loss $10,000.

La., Shreveport.—Dr. G. M. Huckaby's residence; loss about $15,000.

Md., Baltimore.—Bernard Ward's residence, 701 Chestnut Hill Ave., owned by Mrs. Clara Taylor, 2509 Elsinor Ave.

Miss., New Hebron.—Silverthorne Lumber Co.'s sawmill; loss $5000.

Mo., Commerce. — J. C. Blanton's store; Gordon Hotel and other buildings; loss $12,000.

Mo., St. Louis.—Globe Fixture Co.'s warehouse; loss $12,000.

N. C., Lenoir.—Old Finley High School building, owned by G. W. F. Harper.

S. C., Cameron. — E. G. and L. M. Rast's ginhouse and sawmill.

S. C., Gaffney.—Mrs. J. C. Jeffries' dwelling.

S. C., Lexington.—Corley Bros.' sawmill on Fourteen-Mile Creek, 1½ mi. from Lexington; loss $2000.

S. C., Summerville.—Mrs. J. H. Grainger's residence.

S. C., Dillon.—Stores of William Buck and Alex. Courie; loss $12,000.

Tenn., Kingsport. — White Oak Veneer & Lumber Corp.'s plant; loss $50,000.

Tenn., Memphis.—Sam P. Walker's residence; loss $5000.

Tenn., Memphis.—Joseph Rosenfield Co.'s building, owned by Mrs. Kate Hamilton; estimated loss $75,000.

Tex., Jefferson.—Moore McAdoo's residence.

Tex., Weimar.—F. Verunac's store; loss on building and contents $25,000.

Tenn., Winchester.—Geo. E. Banks, Sr.'s store building, occupied by Macon & Tucker.

Tex., Cleveland. — Rev. O. P. Chambers' residence.

Tex., Mabank.—Texas & New Orleans R. R.'s depot; H. F. Jonas, Engr. Struct., Houston.

Tex., Pflugerville. — Mrs. M. D. Brooks' hotel; loss $7500 to $8000.

Va., Berkley, Station Norfolk. — L. D. Rawls' dwelling in South Norfolk; loss $4500.

Va., Natural Bridge.—Natural Bridge Hotel garage; loss $10,000; J. A. Mundy, Jr., Prop. of Natural Bridge Hotel.

W. Va., Hartford.—Dairy and storage barn on C. E. McCulloch farm; loss $7000 to $8000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Fla., Lake Worth.—George Leadley will erect apartment-house of 15 suites; 3 rooms, bath and sleeping porch each.

Fla., Miami. — Louis Corban will erect apartment-house; cost $10,000.

Ga., Atlanta.—A. P. Herrington, 205 Peters Bldg., will erect tenement-house; 33x45 ft.; brick and wood; wood and tile floors; brick and cement sidewalks; cost $9000; plans and construction by owner. (Lately noted.)

Md., Baltimore.—Mayor James H. Preston has plans by A. C. Leach, 323 N. Charles St., Baltimore, to convert dwelling at St. Paul and Read Sts. into apartment-house; brick; 4 stories; contractors estimating are: Herbert & Prodoehl, 431 Munsey Bldg.; W. E. Burnham, 809 Law Bldg.; Cowan Building Co., 106 W. Madison St.; A. L. Blatchley, 412 Whitridge Ave.; all of Baltimore. (Previously noted.)

Mo., Joplin.—O. H. Gentry will erect 3-story apartment-house and business building at 320 Wall St.; reinforced concrete and buff brick; Carthage stone trim; 40x120 ft.; lower floor for automobile display-room or salesroom of rubber tire and belting company; 2 upper stories for seven 3 to 5-room apartments each; disappearing beds; hot-water heat; August C. Michaelis, Archt., Joplin; Mr. Gentry also purchased Garrison Hotel and will remodel; 25 rooms.

Tex., San Antonio.—W. A. Cunningham will erect apartment-house.

Va., Norfolk.—M. De Bona will erect 2-story 3-family brick apartment-house; cost $3500.

ASSOCIATION AND FRATERNAL

Ala., Birmingham. — American Cast Iron Pipe Co., John F. Kent, Gen. Mgr., will expend about $70,000 to improve Y. M. C. A. building at Acipco for operatives; plans include 2 wings to present 3-story structure; reinforced concrete; one to be 3 stories; contain safety department, time office, medical department, auditorium, reading-room, library, dining-room, Sunday and day schoolrooms, committee-rooms, secretary's office, etc.; other, 2 stories for barber shop, shoe shop, bowling alley and classrooms in basement, secretary's office, reading and music-rooms, library, auditorium and dormitory; both auditoriums equipped as motion-picture theaters.

N. C., Creedmore.—Building Com., R. H. Rodgers, Chrmn., is having plans prepared by Linthicum & Linthicum, Durham, N. C., for Masonic Temple; 32x62 ft.; 2 stories; brick, steel and frame; Barrett specification slag roof. Address Mr. Rodgers.

Okla., Bristow.—Lodge No. 226, A. F. & A. M., will erect temple; 2 stories; brick; Layton & Smith, Archts., 701 Majestic Bldg., Oklahoma City.

Va., Clifton Forge.—Chesapeake & Ohio Ry. Y. M. C. A., E. D. Foster, Secy., is having plans prepared by L. E. Jallade, 37 Liberty St., New York, for 2-story building; 100x125 ft.; cost about $50,000.

Va., Williamsburg. — Williamsburg Lodge No. 6, A. F. and A. M., will erect lodge building; probably brick; 3 stories; lodgerooms on third floor; offices on first and second.

BANK AND OFFICE

Ark., Conway.—F. W. Halter will erect 2-story brick office building.

Fla., Fort Pierce.—F. C. Poppell will erect office and store building. (See Stores.)

Ga., Alma.—Bank of Alma, P. H. Comas, Prest., will erect bank building.

Md., Baltimore.—Samuel Want is having plans prepared by Sparklin & Childs, 502-06 Law Bldg., Baltimore, to remodel building at 582-84 N. Gay St. for bank; stucco; 30x100 ft.; 1 story; composition roof on frame construction; wood and tile floors. (Citizens State Bank of Maryland lately noted to erect building.)

N. C., Greensboro.—A. J. Klutz will erect office building.

N. C., Greensboro. — American Exchange National Bank is having plans prepared by Raleigh James Hughes, Greensboro, for bank and office building; 8 or 10 stories; 51x117 ft.; W. C. Boren, E. Sternberger, A. W. McAlister, Bldg. Committee. Architect wires Manufacturers Record: Plans probably ready for bidders latter part of Dec.; cost about $300,000; other particulars not determined. (Previously noted.)

Tex., Apple Springs.—First State Bank of Apple Springs is having plans prepared by J. S. Hood, Groveton, Tex., for bank building; 25x35 ft.; frame; cypress shingle roof; pine floors; cost, without equipment, $1000; install $500 vault.

Tex., Bonham.—Bonham Cotton Mills will erect addition to office building; 24x36 ft.; brick; tin roof; wood floors; cost, without equipment, $1500; steam heat to be installed by company's mechanics. (Lately noted.)

Tex., Dallas.—Interstate Amusement Co. rejected bids to erect Majestic Theater; contain offices. (See Theaters.)

Tex., Laredo.—Milmo National Bank has plans by C. H. Page & Bro., Austin, Tex., for bank building; bids opened Oct. 2. (Previously noted.)

Va., Norfolk.—Tazewell Street Realty Corp. is reported to receive bids until Dec. 1 through Rossel Edward Mitchell, Archt., Norfolk, to erect 6-story store, office and loft building; 127x144 ft.; reinforced concrete frame; brick and stone; terra-cotta facings; metal windows and doors; 2 electric passenger and 2 electric freight elevators; stores on first floor; balance of upper floors for lofts; cost about $300,000. (Previously noted.)

Va., Williamsburg. — Williamsburg Lodge No. 6, A. F. and A. M., will erect lodge building; offices on first and second floors. (See Association and Fraternal.)

CHURCHES

Ark., Benton.—Benton Baptist Church is having plans prepared by Thompson & Harding, Little Rock, for building; 40x70 ft.; brick; slate roof; pine floors; steam heat; cost $15,000; bids opened about Oct. 1. (Lately noted.)

Ky., Winchester. — Methodist Episcopal Church South opened bids to erect building; about 130x80 ft.; stone veneer; tile roof; wood floors; will probably let contract to N. A. Powell, Winchester, lowest bidder, at $73,500; Geo. E. Tomlinson, Chmn. Com.; John Gaisford, Archt., Memphis, Tenn. (Lately noted.)

Kan., Wichita. — Methodist Episcopal Church has plans by John Gaisford, Memphis, Tenn., for building; about 130x80 ft.; stone veneer; tile roof; cost $75,000; date opening bids not set. Address Orville A. Boyle, Scy. Bldg. Com., car Boyle Company, Wichita.

Md., Baltimore.—Lutheran Inner Mission Society has plans by H. J. Jory, 1408 Munsey Bldg., Baltimore, for alterations to building at 599 Park Ave.; contractors estimating are: G. Walter Tovell, Eutaw and McCulloh Sts.; E. G. Turner, 15 E. Fayette St.; B. F. Bennett Building Co., 123 S. Howard St.; Cowan Building Co., 106 W. Madison St.; John Hughes, Jr., 423 Courtland St.; Consolidated Engineering Co., 243-55 Calvert Bldg.; all of Baltimore.

Mo., Maplewood. — Maplewood Baptist Church will erect building in Zephyr Hills; reported cost $50,000. Address The Pastor.

N. C., Winston-Salem.—Grace Presbyterian Church will erect $10,000 structure. Address The Pastor.

S. C., Blackville. — First Baptist Church will erect $15,000 to $20,000 building. Address The Pastor.

Tex., Denton.—Baptist Church will erect building. Address The Pastor.

Tex., Fort Worth.—Baptist congregations and Texas State Mission Board will erect $3000 tabernacle; Revs. Forrest Smith and W. W. Barnes, and Dr. Jeff D. Ray, Com.

Tex., Fort Worth.—Texas Christian University will erect church on campus; brick and concrete; Rev. Walter Jennings, Pastor.

W. Va., Huntington. — Trinity Episcopal Church is receiving bids through E. N. Alger, Archt., Robson-Prichard Bldg., Huntington, to erect proposed parish-house.

CITY AND COUNTY

Fla., Zolfo—City Hall, etc.—City voted $15,000 bonds to equip city hall, make city park improvements, etc. (See Road and Street Work.)

Ga., Columbus—Fire Station, etc. — City defeated $177,000 bond issue, including $12,000 bonds to erect and equip fire station, $15,000 to erect annex and nurses' dormitory at city hospital, $150,000 to construct sewers; M. M. Moore, City Clerk. (Lately noted.)

Miss., Sumner — Almshouse. — Board of Supervisors of Tallahatchie County, D. S. Henderson, Clerk, receives bids Oct. 1 to erect 2-room boxhouse with hall; plans and specifications at office of Mr. Henderson.

S. C., Columbia—Market.—City will vote on $20,000 bonds to erect city market; L. A. Griffith, Mayor. (See Road & Street Work.)

Tenn., Nashville — Warehouse. — Board of Transportation Trustees is considering erecting warehouse at wharf; cost $40,000 to $50,000; Capt. Stewart, U. S. Engineer to prepare plans.

Tex., Galveston—Pavilion.—City will erect pavilion, etc., on Morris Lasker Memorial playground; octagon shape; 35 ft. in diameter; cost $2500; Myron A. Kesner, Archt.; Stowe & Stowe, Supervising Archts., Galveston.

Tex., New Braunfels—Fire Station.—City voted $10,000 bonds to erect central fire station. Address The Mayor.

Tex., Tyler—Jail.—County Commrs. have plans by F. G. Shaw, Tyler, for 2-story reinforced concrete jail; 30x46 ft.

COURTHOUSES

W. Va., Glenville.—Gilmer County Court opens bids Oct. 18 to erect courthouse; 75x100 ft.; semi-fireproof; asbestos roof; concrete and wood floors; steam heat; gas and electric lighting; cost $50,000; A. F. Wysong, Archt., Princeton, W. Va., may be addressed. (Lately noted.)

DWELLINGS

D. C., Washington.—W. S. Phelps has plans by Geo. T. Santmyers, 921½ New York Ave. N. W., Washington, for residence at 3007 Franklin St. N. E.; cost $2900.

Fla., Miami.—Mary Brickell will erect 3 dwellings; cost $25,000.

Fla., Miami.—Charles W. May will erect residence.

Fla., Moore Haven.—John J. O'Brien will erect rustic bungalow; cost $5000.

Fla., St. Petersburg.—George W. Van Houten will erect cottage; 5 rooms and bath.

Fla., Tampa.—J. Bornstein, Prest. of Republic Real Estate & Construction Co., will build residence at Oldsmar.

Fla., Vero.—George L. Funnell will erect bungalow.

Ga., Atlanta.—Dr. J. Frank Huss will erect 1-story brick-veneer dwelling; cost $5000.

Ga., Brunswick.—Brunswick Marine Construction Corp., W. U. Taylor, Prest., will erect 35 residences.

Ga., Brunswick.—United States Maritime Corporation will build 100 dwellings for employes.

Ga., Brunswick. — American Shipbuilding Co. will build 4 bungalows for company's engineers and number of smaller houses for workmen.

La., Monroe.—J. R. Stengill will erect residence; 7 rooms; brick; asphalt roof; hardwood and pine floors; sidewalk completed; cost $5000. (Lately noted.)

Md., Baltimore.—Geo. H. Textor has plans by J. F. Nelker, Professional Bldg., Baltimore, for $10,000 residence at Garrison and Piedmont Aves.; E. G. Turner, 15 E. Fayette St., Baltimore, is estimating on construction.

Md., Hagerstown.—Max Winters will erect 2-story stucco dwelling; 30x30 ft.; slate roof.

Miss., Clarksdale.—A. Sack has plans by Spencer & Abbott, Clarksdale, for 2 residences in Oakhurst.

Miss., Clarksdale.—Mrs. C. P. Hannay has plans by Spencer & Abbott, Clarksdale, for 2 dwellings in Oakhurst.

Miss., Clarksdale.—Johnson-Harlow Lumber Co. purchased 10 dwelling sites; will erect 3 buildings at present.

Miss., Clarksdale.—J. A. Darden has plans by M. M. Alsop, Clarksdale, for $10,000 dwelling.

Miss., Clarksdale.—Jake Fink has plans by M. M. Alsop, Clarksdale, for residence; frame and brick veneer; tile roof; wood floors; city lighting; cost $10,000; heating, $120; bids opened Sept. 24. Address architect. (Lately noted.)

Miss., Tutwiler.—W. E. Foster will erect $4000 residence; Spencer & Abbott, Archts., Clarksdale, Miss.

Mo., Kansas City.—Cowherd Land Co. will erect 5 stucco dwellings, 6128-36 and 6120 Walnut St. and 7 Morningside Drive; cost $33,500.

Okla., Miami.—W. O. Cardin is having plans prepared by T. Fossard, Miami, for $12,000 residence.

Okla., Tulsa.—Blair Bros. will erect $30 residence.

Okla., Tulsa.—R. Claffin will erect dwelling; cost $4500.

Tex., Austin.—Mrs. Lucy Perry will erect addition to 2-story residence; cost $3000.

Tex., Beaumont.—M. J. Ebberts has plans by Babin & Beck, Beaumont, for residence; cost $9000.

Tex., Beaumont.—J. S. Meriwether will erect four 4-room dwellings; stucco; cost $6400.

Tex., Crowell.—R. B. Ewdards is receiving bids to erect 2-story brick residence and garage; plans from Mr. Edwards and R. H. Stucky, Archt., Chillicothe, Tex. (Lately noted receiving bids until August 6 to erect residence.)

Tex., Dallas.—Rhodes-Dines Building Co. has permit to erect 8-room 2-story brick-veneer dwelling; cost $9000.

Tex., El Paso.—W. T. Ravenhill will erect bungalow in Mundy Heights addition.

Tex., El Paso.—Lee Moor will erect bungalow; cost $5000.

Tex., Houston.—Houston Land Corp. will erect 5-room cottage on Yupon St.; cost $3230; also 7-room cottage, Graustark and Ross Sts.; cost $5300.

Va., Norfolk.—J. W. Crump will erect 2 brick dwellings; cost $4000.

GOVERNMENT AND STATE

Ala., Andalusia—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids Oct. 23 to erect postoffice; drawings and specifications obtainable from custodian of site or from office Mr. Wetmore.

Md., Baltimore — Postoffice. — Sherlock Swann, Custodian, Baltimore, receives bids until Oct. 1 to repair and paint postoffice and courthouse building; work includes alterations in rooms Nos. 103 and 104, to provide new money order department, placing partition in room No. 216, including incidental changes and repairs; plans and specifications from Custodian only.

Tex., San Antonio—Engineer Depot.—War Department, Washington, D. C., will erect engineer depot; galvanized iron; mill construction; 400x50 ft.; cost $20,000; also selected sites for medical and quartermaster depots.

Va., Morrison—Aviation Camp, etc.—War Department, Washington, D. C., leased 258-acre tract and will establish aviation concentration camp; construct cantonments to accommodate 5000 men, warehouses for storing machines, etc.; also negotiating for additional site near Morrison for radio station.

Va., St. Juliens Creek—Ammunition Depot. Bureau of Yards and Docks, F. R. Harris, Chief, Washington, D. C., opened bids to erect addition to building No. 13; Simmons, Hartenstein & Whitten, Inc., Charlotte, N. C., low bidders at $10,209; plans include concrete foundations, brick walls, steel trusses and purlins; slate roof; wood floors over concrete; wood sash and galvanized-steel shutters. (Lately noted.)

HOSPITALS, SANITARIUMS, ETC.

Ala., Anniston.—War Department, Washington, D. C., will construct base hospital at Camp McClellan; plans call for 60 ward buildings; each 1 story; 37.6x75 ft.; connected with roofed corridors and slatted walks; isolation wards, neuro-psychiatric ward, administration building, nurses' quarters, garages, laundry, laboratory, messrooms, barracks, etc.; accommodate 1000 beds; cost, exclusive of equipment, $600,000; Major Charles L. Dulin, Camp McClellan.

Fla., Key West.—Jas. A. Wetmore, Supervising Archt., Treas. Dept., Washington, D.

C., receives bids until Sept. 28 for tent houses at U. S. Marine Hospital.

Ga., Columbus.—City defeated bond issue to erect annex and nurses' dormitory at city hospital. (See City and County.)

Okla., Miami.—Baptist churches will expend $60,000 for hospital for Oklahoma State Baptist Assn.; Mr. Bellis, Kansas City, Mo., is preparing plans; Rev. C. Stubblefield, Pastor First Baptist Church, is interested. (Lately noted.)

Tex., Dallas.—City and County will jointly erect tubercular hospital; 16x40 ft.; screened porches, etc.; Dr. A. W. Carnes, City Health Officer.

HOTELS

Fla., St. Petersburg.—A. C. Pheil will erect building for hotel, store and theater. (See Theaters.)

Ky., Louisville.—Crescent Hotel Co. will erect addition; 150 rooms.

Md., Baltimore. — Charles H. Consolvo, Norfolk, Va., acquired Hotel Belvedere and is reported to enlarge.

Mo., Joplin.—O. H. Gentry will remodel Garrison Hotel. (See Apartment-houses.)

N. C., Greensboro.—Guilford Hotel plans to remodel building in spring; tentative plans include 20 additional rooms to 4th story, remodel interior, enlarge lobby, staircases, elevators, etc.; cost $75,000. (See Machinery Wanted—Elevator; Bath Fixtures.)

Va., Newport News.—Hotel Grafton, E. J. Graff, Prop., is having plans prepared by John Kevan Peebles, Norfolk, for addition over stores on south side of building, providing 36 additional rooms to hotel; probably add 2-story addition later.

MISCELLANEOUS

Okla., Muskogee — Livestock Pavilion. — Chamber of Commerce, Tulsa, Clarence B. Douglas, Gen. Secy., will erect livestock pavilion at Free State Fair Grounds.

Okla., Tulsa—Mission.—Mission of Redeeming Love will erect building; 3 stories; ground floor occupied by mission, second by mission workers and third by lodgers.

Tex., El Paso—Home.—Pioneer Home Assn. has plans by Edward Kneezell, El Paso, for Pioneer Home.

Tex., Gilmer—Barber Shop.—S. J. Moughen will erect buildings for barber shop and theaters. (See Theaters.)

Tex., San Antonio — Amusement. — J. B. Hucker, Mgr. Southwestern Telephone Co., and others, are promoting company to establish amusement resort at Camp Travis; will provide theater, bowling alleys, shooting gallery, skating and dancing pavilions, etc.

W. Va., Beckley—Library.—P. H. M. Patterson is Chrmn., and Ben. H. Williams, Secy., of organization promoting erection of Beckley Memorial Library; tentative plans include 2 stories; basement for gymnasium; library on first floor; auditorium on second.

W. Va., Charleston — Home. — R. S. Carr, Frank Cox and others are interested in erection of Lavinia Home for Old Ladies; plans include stone structure to accommodate about 20.

RAILWAY STATIONS, SHEDS, ETC.

Okla., Bristow.—St. Louis & San Francisco Ry., F. G. Jonah, Chief Engr., St. Louis, will erect concrete depot.

Tex., Fort Worth.—Wells Fargo & Co. Express, John A. Hyde, Supt., Dallas; American Express Co. and Adams Express Co. will erect expres building at Camp Bowie; 1 story; frame; 30x80 ft. (Previously noted.)

Va., Newport News. — Newport News & Hampton Railway, Gas & Electric Co., J. N. Shanaahan, Prest., is reported to expend $22,000 to erect freight depot.

SCHOOLS

Ala., Marbury.—School Board will erect high school building; cost $4000.

Ark., Dyer.—Dyer School Dist. has plans by J. H. Bliss, Little Rock, for school; 76x66 ft.; brick; steel roof; wood floors; Waterbury heating system; electric lights; cost $10,000; bids opened Oct. 6; construction begins about Oct. 20. Address J. H. Ayres, Dyer. (Lately noted.)

Fla., Moore Haven.—Moore Haven School Board will erect building; 36x50 ft.; wood construction; composition roof; wood floors; no heating or lighting plans; cost $2000; local Archt. (Lately noted.)

Fla., Tallahassee. — Board of Control of Florida, Joe E. Earman, Chrmn., receives bids at office Board of Trade, Miami, Fla., until Oct. 8 to construct horse barn, dairy barn, implement shed and addition to mechanic arts building for Florida A. & M. College for Negroes; drawings and specifications at office Edwards & Sayward, Archts., 633 Candler Bldg., Atlanta, and N. B. Young, Prest. of College, Tallahassee. (Lately noted.)

Ga., Nashville.—City will not issue bonds to erect addition to school; W. R. Smith, Mayor. (Lately noted.)

La., Amite. — School Board Consolidated Sixth Ward School has plans by Nolan & Torre, New Orleans, for frame building.

Md., Baltimore.—Goucher College let contract to John Waters Building Co., 23 E. Center St., Baltimore, to erect laboratory building on 23d St.; 2 stories; 36.8x63.3 ft.; stone; tin roof; wood floors; cost $16,000; Ellicott & Emmart, Archts., Union Trust Bldg., Baltimore. Address Contractor. (Lately noted.)

Mo., Kansas City.—Parochial School for Dominican Fathers has plans by White & Dean, 311 Bellefontaine St., Kansas City, for 2-story building; 100x128 ft.; cost $35,000.

N. C., Kinston.—Caswell Training School is having plans prepared by C. E. Hartge, Raleigh, for refrigeration building; will not erect industrial building at present. (Lately noted.)

N. C., Paw Creek.—Paw Creek School District will probably engage L. L. Hunter, Charlotte, to prepare plans for school building; 7 rooms and auditorium; brick; slate or gravel roof; flooring and heating not decided; cost $18,000; date opening bids not determined. Address J. M. Matthews, County Supt., Charlotte. (Lately noted.)

Okla., Ada.—Board of Education will erect brick school in New Bethel Dist. No. 15; A. T. Witcher, Clerk.

Okla., Ardmore.—County Commrs. plan to erect $16,000 school building.

Okla., Boynton.—Muskogee County Commrs. receive bids until Oct. 2 to erect brick addition to school building; plans and specifications at office Lewis F. Kipp, County Clerk, and M. T. Hardin, Archt., both of Muskogee.

Okla., Chickasha.—Grady County Commrs. have plans by Macklin & Faught, Chickasha, for school at First St. and Dakota Ave.; 24x63 ft.; brick walls; shingle roof; wood floors; cost $4000; bids opened Oct. 1. Address R. S. Cox, County Clerk. (Lately noted.)

Okla., Chickasha.—School Board, District No. 43, W. C. Welch, Clerk, receives bids until Sept. 24 to erect addition to Lyons school; plans and specifications at office County Supt.

Okla., Elk City.—School Dist. No. 6 of Elk City votes Oct. 29 on $50,000 bonds to build high school; J. G. Scott, official in charge. (Lately noted.)

Okla., Mill Creek.—Board of Trustees of School Dist. No. 29 will erect 1-story brick and frame school; S. P. Williams, Clerk of Board; bids opened Sept. 20.

S. C., Anderson. — Trustees Flat Rock School Dist. No. 38 will erect school building; 3 rooms with hall over entire building; frame construction; cost $3250. Address J. B. Felton, County Supt., Anderson. (Lately noted.)

S. C., Spartanburg.—Dutchman School District (Morgan, Hebron and Dutchman School Dists.) will erect $3000 building. Address Dist. School Trustees.

Tex., Austin.—Rev. W. J. O'Donnell will erect school building; frame; cost $3500.

Tex., Bryan.—City votes Oct. 18 on $90,000 bonds to erect high school building. Address The Mayor. (Lately noted.)

Tex., Dallas.—Sisters of St. Mary will erect brick addition to school building at 801 N. Marsalis St.; cost $8000.

Tex., Orange.—Orange County School Board has plans by Babin & Beck, Beaumont, Tex., for $3000 school building in District No. 10; 2 rooms; work begins in about 10 days.

Tex., San Antonio.—Methodist Kindergarten will erect school building; cost $5800.

Tex., Trent.—School Board is having plans prepared by R. S. Glenn, Abilene, Tex., for $2000 school building.

Va., Rustburg.—Rustburg District School Board receives bids until Sept. 21 through Heard & Cardwell, Archts., 1004 Peoples National Bank Bldg., Lynchburg, Va., to erect 1-room school building near Yellow Branch; 25x30 ft.; frame; tin roof; wood floors; jacketed stoves.

W. Va., McComas.—County School Board, J. C. Burton, Matoka, W. Va., member, will erect school building; 60x90 ft.; ordinary construction; built-up roof; wood floors; steam heat; electric lighting; cost $10,000; A. F. Wysong, Archt., Princeton, W. Va.; date opening bids not set. Address Mr. Burton.

W. Va., Webster.—Board of Education, Webster District, I. C. Brown, Secy., Cameron, W. Va., R. F. D. No. 4, will erect school building at McCreary's graveyard; bids opened; H. W. McDowell, County Supt.

W. Va., West Liberty.—State Board of Control, E. B. Stephenson, Prest., opened bids to erect dormitory at West Liberty Normal School; R. R. Kitchin Co., Wheeling, W. Va., low bidder at $86,500; plans by F. F. Faris, Wheeling, call for ordinary brick and wood construction; composition roof; 56.10x181.10 ft.; 3 porches. (Lately noted.)

STORES

Fla., Fort Pierce.—F. C. Poppell will erect 2-story brick block for stores and offices; 52x80 ft.

Fla., St. Petersburg.—A. C. Pheil will erect building for hotel, store and theater. (See Theaters.)

Ga., Waycross.—W. D. O'Quinn will erect residence by day labor; 55x60 ft.; concrete; rubber roof; concrete floors; city electric lights. (Lately noted.)

Md., Piney Point.—J. T. Swann & Son are reported to erect concrete store and post-office building to replace burned structure.

Mo., Joplin.—O. H. Gentry will erect apartment-house and business building. (See Apartment-houses.)

Mo., Quapaw.—J. E. Sheppard will erect 2-story concrete building.

Mo., Quapaw.—J. S. Moore will erect store building.

N. C., Morganton.—Claywell Bros. will erect 2-story addition and install front in present structure.

N. C., Wilmington.—W. P. Roudabush will convert 3 buildings into one for wholesale and retail grocery store; 66x100 ft.; remove inside walls; metal and rubber roof; cement floors; construction begun by day labor under foreman. (Lately noted.)

Okla., Ada.—Brown, Bobbitt & Sparks will erect business building.

Okla., Lawton.—Dr. J. L. Mullen will erect 2-story business building; brick.

Okla., Mill Creek.—J. S. Riley is reported to erect business building.

S. C., Greer.—Andrew H. Miller will erect store; pressed brick; 23x100 ft.

Tenn., Memphis.—S. B. Jacobs will expend $2000 to remodel building at Iowa and Pennsylvania Aves.

Tex., Galveston.—Owner of building at Market and Tremont Sts. will remodel for F. W. Woolworth & Co., 350 Broadway, New York; plans include windows, floors, doors, electric wiring, elevator, etc.; cost $4000.

Tex., Paris.—England-Haynes Grocery Co., Durant, Okla., will erect 3-story brick and concrete business building; 75x200 ft.

Va., Norfolk. — Tazewell Street Realty Corp. will erect store, office and loft building. (See Bank and Office.)

THEATERS

Ark., Little Rock.—Interstate Amusement Co., Carl Hoblitzelle, Prest., will erect Majestic Theater at Camp Pike; 160x200 ft.; frame; seating capacity 2000.

Fla., St. Petersburg.—A. C. Pheil has plans by Wm. S. Shull, Box 1834, St. Petersburg, to erect lately-noted building for moving pictures, store and hotel; 80x100 ft.; brick, reinforced concrete and frame construction; slag roof; wood floors; vapor system of heat; cost $15,000; construction by owner. (See Machinery Wanted—Ornaments.)

Tex., Dallas.—Interstate Amusement Co., S. von Phul, resident Mgr., rejected bids to erect Majestic Theater and will probably call for new bids; plans by J. Eberson, Steinway Hall, Chicago, call for structure 100x200 ft.; 4 stories; offices and theater; reinforced concrete; built-up roof; metal floor domes; steam heat; electric freight and passenger elevators; cost $100,000 to $250,000; Lang & Witchell, Local Archts.; Austin Bros., Dallas, have contract for steel work. (Previously noted.)

Tex., Gilmer.—S. J. Moughen will erect 2 buildings to replace burned structure; 1 for picture show, other for barber shop; 25x100 ft. and 18x100 ft.; build 9-in. wall between; plaster walls; sand finish with coat of calcimine; metal ceilings; repaint, etc. (Lately noted to erect store.)

WAREHOUSES

Fla., Hildreth.—J. T. Lanier will erect sweet-potato warehouse.

Fla., Live Oak.—E. J. Blume will erect sweet-potato warehouse.

Fla., Live Oak, R. D. No. 4.—J. C. Henry plans to erect sweet-potato warehouse.

Fla., Houston.—H. S. Williams is reported to construct sweet-potato warehouse.

Ga., Statesboro. — Bulloch County Products Co. organized with $10,000 capital by J. W. Williams, J. A. Brannen, Brooks Simmons and others; will erect market warehouse.

N. C., Graham. — Alamance Potato Co. incptd. with $10,000 capital by J. F. Rowe, J. A. Temple, L. W. Brock and others.

Tenn., Memphis.—Chickasaw Oil Mill Co. will erect cottonseed warehouse; cost $4000.

Tex., Midland.—W. S. Hill will erect warehouse.

Tex., San Antonio.—J. E. Muegge will erect warehouse; cost $3000.

Va., Newport News.—Newport News Shipbuilding & Drydock Co. will erect storage warehouse.

Va., Onancock.—Accomac Storage Co. chartered with $250,000 capital by Dr. J. W. Bowdoin, Prest.; Martin Hall, V.-P.; J. Harry Rew, Secy.-Treas.; will erect potato-storage warehouses at number of railroad stations.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

D. C., Washington.—John L. Warren let contract to J. E. Fox, 37 R St. N. E., Washington, to erect apartment-house, 1205 Fifteenth St. N. W.; 89x98 ft.; 5 stories; brick and reinforced concrete; slag roof; Schuster floor construction; Indiana limestone trim; steam heat; electric lights; elevators; cost $125,000; Hunter & Bell, Archts., 411 Southern Bldg., Washington. (Lately noted.)

Fla., St. Petersburg.—W. E. Laird let contract to Carson & Prather, St. Petersburg, to erect apartment-house, Eighth St. and First Ave.

ASSOCIATION AND FRATERNAL

Ala., Fort Payne.—E. S. Killian let contract to erect lodge, store and office building. (See Stores.)

BANK AND OFFICE

Ala., Fort Payne.—E. S. Killian let contract to erect store, office and lodge building. (See Stores.)

CHURCHES

Ark., Dardanelle. — Methodist Episcopal Church, South, Rev. Ell Myers, Pastor, let contract to O. S. Nelson, Russellville, Ark., to erect addition to building lately noted; 14 Sunday-school rooms, audience-room and galleries on 3 sides; brick; asbestos shingle or tile-like roof; inclined oak floors; steam or hot-air heat; city lighting; cost, including pipe organ, $10,000 to $12,000; John P. Almand, Archt., Little Rock. Address contractor. (See Machinery Wanted—Heating.)

Fla., Fort Myers.—Baptist Church let contract to R. L. Welch, Fort Myers, to erect parsonage; cost $2000.

S. C., Charleston.—Rutledge Avenue Baptist Church let contract to Thomas M. McCarrel, 217 Rutledge Ave., Charleston, to erect building; 56x82 ft.; brick; cement stone trim; tin roof; wood joist pine floors; cost $22,000; D. B. Hyer, Archt., Charleston.

Tex., Houston.—First Baptist Church of Magnolia Park let contract to Tom Telefson, Houston, to erect building; fireproof; cost $15,000; R. D. Steele, Archt., Houston.

Va., Norfolk.—United Presbyterian Church let contract to Griffin Bros., Norfolk, to erect parsonage and assembly-room; brick; slate roof; frame flooring; cost $15,000; steam heat, about $2000; all sub-contracts let.

CITY AND COUNTY

Okla., Okmulgee—City Hall.—City Commrs. let contract to Bliver & Woodward, Tulsa, Okla., to remodel city hall; cost $2579.

COURTHOUSES

Okla., Cheyenne.—Roger Mills County let contract at $29,850 to Mann Construction Co., Oklahoma City, to build courthouse. (Previously noted.)

DWELLINGS

Ala., Fort Payne.—C. P. Killian has plans by and let contract to R. J. Chitwood, Fort Payne, to remodel and erect addition to 4-room residence; 8 rooms, bath and sleeping-porch, 15x24 ft.; 40x45 ft.; front porch 12x40 ft.; brick columns; 1½ stories; pine shingle roof; pine floors; cost $2500.

Ala., Fort Payne.—D. L. Campbell has plans by and let contract to R. J. Chitwood, Fort Payne, to erect bungalow; 42x64 ft.; gray brick floor level and porch columns; concrete porch, 12x34 ft.; concrete steps; brick basement, 28x20 ft. with concrete floor, wood above floor level; oak floors; wainscoted panels; all rooms plastered; bathroom cement and plaster covered with Carey asphalt slate shingles. (Lately noted.)

D. C., Washington.—Waddy B. Wood let contract to Wm. Todd, 1406 G. St. N. W., Washington, to remodel dwelling at 2121 Bancroft St. N. W.; cost $4000.

D. C., Washington.—W. A. Hitt, 1122 8th St. N. E., has plans by and let contract to C. M. Chaney to erect residence at 3317 17th St. N. E.; cost $3600.

Fla., St. Petersburg.—Roy V. Sellers let contract to R. L. Sharpe, St. Petersburg, to erect residence; cost $3400.

Fla., St. Petersburg.—W. J. Jones let contract to Carson & Prather, St. Petersburg, to erect bungalow on Kinyon St.

Fla., St. Petersburg.—H. W. Hibbs let contract to Carson & Prather, St. Petersburg, to erect bungalow on Lee St.

Ga., Atlanta.—George W. Collier let contract to J. S. and C. E. Cochran, Atlanta, to erect 1-story frame dwelling; cost $3050.

Ga., Atlanta.—Dr. M. K. Jenkins will erect 2-story brick-veneer dwelling; cost $9000; Aiken & Parr, Contrs., Atlanta.

Ga., Atlanta.—J. D. Lee, 95 East Ave., has plans by and let contract to J. I. Brown, 163 Marietta St., Atlanta, to erect dwelling; 7 rooms; frame; composition roof; hardwood and pine floors; grates; cost $3000 to $3500; electric lighting. $100. (Lately noted.)

Ga., Augusta.—C. C. Howard let contract to A. M. Banks, Augusta, to erect bungalow; cost $2670.

Mo., Quapaw.—M. E. Douthat let contract to erect two 6-room bungalows; brick.

S. C., Florence.—Dr. F. H. McLeod has plans by W. D. Harper, Florence, for dwelling; 79x81.6 ft.; common and face brick; Spanish red tile roof; quartered white oak, pine and tile floors; electric lighting; cost $20,000; hot water or steam heat, $4000 to $4500; bids opened about Sept. 15. (Lately noted.)

Tenn., Memphis.—A. B. Herbers let contract to Lewis L. Diehl, Memphis, to erect 1-story 7-room brick-veneer residence; cost $3000.

Tenn., Memphis.—N. Karnosky, Peabody Hotel, let contract to S. Malkin, 922 Exchange Bldg., Memphis, to erect dwelling; 30x54 ft.; 2 stories; brick veneer; tile roof; hardwood floors; city lighting; cost $12,000; hot-water heat, about $1000; Mahan & Broadwell, Archts., Germania Bank Bldg., Memphis; construction begun. (Lately noted.)

Tex., Beaumont.—J. S. Meriwether has contract to erect 2-story stucco dwelling and garage in Blanchette addition.

GOVERNMENT AND STATE

Ark., Rogers—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract to Charles Weitz Sons, Des Moines, Iowa, to build postoffice; cost $70,000. (Previously noted.)

Ga., Forsyth—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract to erect postoffice to James H. B. Wilder, Macon, Ga.; cost $60,000. (Lately noted.)

Ga., Washington—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at $39,876 to Wm. J. Brent, Norfolk, Va., to construct postoffice. (Lately noted.)

La., Lake Charles—Aviation Camp.—War Dept., Washington, D. C., let contract to Mason & Hanger, Richmond, Ky., to construct aviation camp; erect 30 dwellings; 2 units, requiring 12 hangars each; construct temporary railroad track from Holmwood Station; total expenditure about $2,000,000, including equipment; Capt. C. T. Waring in charge of construction. (Lately noted.)

Okla., Fort Sill—Aviation School.—War Department, Washington, D. C., let contract to Selden-Breck Construction Co., Fullerton Bldg., St. Louis, to erect 11 additional buildings for aviation school to include 4 barracks, accommodate 150 men each, 4 officers quarters, administration building, store house and garage.

Tenn., Millington—Aviation School.—War Department, Washington, D. C., let contract to E. A. Wickham & Co., Omaha, Neb., to complete buildings for aviation school; total frontage 4300 ft.; depth 502 ft.; frame; wood and concrete floors; composition roofs; electric lighting; heating not decided; cost $750,000; Albert Kahn, Archt., Detroit, Mich. (Lately noted.)

Va., St. Juliens Creek—Magazine Storehouse.—Bureau of Yards and Docks, Navy Dept., F. R. Harris, Chief, Washington, D. C., let contract at $64,750 to J. H. Weise, 1301 City National Bank Bldg., Omaha, Neb., to erect 2-story magazine storehouse; wood, plain concrete or reinforced concrete piles, or reinforced concrete foundations; reinforced concrete platform, steps and floor slabs; wood finished floors; terra-cotta walls and partitions; electric lighting; lightning protection; plumbing and heating. (Previously noted.)

HOSPITALS, SANITARIUMS, ETC.

Tex., Abilene.—Dr. J. M. Alexander let contract to R. C. Lewis, Abilene, to erect sanitarium; 50x80 ft.; reinforced concrete and brick; concrete slab with tile floor roof garden; concrete floor construction, covering not decided; steam heat; electric lighting; cost $30,000; electric elevator; R. S. Glenn, Archt., Abilene; work to be done on cost plus plan. (Lately noted.)

Tex., San Antonio.—Board of Managers, Southwestern Insane Asylum, let contract to Weston & Kroeger, Frast Bldg., San Antonio, to erect dining-room, nurses' dormitory and stable; dining-room, 231x116 ft.; 2 stories; dormitory, 2 stories; 39x123 ft.; stable, 2 stories; 56x95.6 ft.; fireproof construction; reinforced concrete; tar and gravel roofs; concrete floors; light from room (separate contract); cost $128,780; heating $7381; also let contract for heating to Chalkley Bros., and electric work to Martin Wright, both of San Antonio; C. V. Seutter, Archt., 425 Moore Bldg., San Antonio. (Lately noted.)

Tex., Terrell.—State let contract at $5346 to King & Duncan, Dallas, to repair main building of North Texas Insane Asylum.

HOTELS

Okla., Sapulpa.—P. J. Stephenson & Co. let contract to erect hotel; 80x100 ft.

S. C., Lake City.—J. M. Truluck let contract to J. G. Harris, Lake City, to build hotel; brick; Barrett specification roof; wood floors; cost $18,000; Walker & Burden, Archts., Charleston. (Lately noted.)

MISCELLANEOUS

Ga., Valdosta—Clubhouse.—Valdosta Country Club let contract to W. E. Booth, Valdosta, to erect clubhouse; plans include reception-room, lounging-rooms, porches, shower and locker-rooms, kitchen; artesian well; electric-light line being run from city, about 4 mi.; ordinary construction; Lloyd Greer, Archt., Valdosta. (Previously noted.)

Md., Cumberland—Bowling Alleys, etc.—Howard E. Chaney and Andrea P. Caldwell, Props. Diamond Bowling Alleys, 223 Virginia Ave., let contract to E. J. Coffey to erect building for bowling alleys, billiards, dancing and convention hall; 39x120 ft.; brick and steel; slag roof; hot-water heat; electric and gas lighting; cement sidewalks; probably install elevator; cost not determined; plans by Mr. Chaney. Address Chaney & Caldwell. (Lately noted.)

S. C., Anderson—Community Building.—Equinox Mills, R. E. Ligon, Mgr., let contract to C. M. Guest, Anderson, to erect community building for operatives; 3 stories; brick; slate roof; cast cement porch floors, steps and trimmings; basement on first floor to contain swimming pool, showers, dressing-rooms, etc.; second floor for library, social hall, domestic science, dining-room, manual training, dispensary, dental office and waiting-room; third, for auditorium; heat furnished from mill; cost $16,000; Casey & Fant, Archts., Anderson, in charge of construction.

Va., Norfolk—Restaurant.—Lowenberg estate let contract to Jesse Johnson, Norfolk, to remodel Lenox Bldg. for tea garden and restaurant to be occupied by Oriental Restaurant Co., Ligh S. Tigh, Mgr.; provide marble stairway, balcony, etc.; Finlay F. Ferguson and John K. Peebles, Archts., Norfolk.

S. C., Seabrook Island—Clubhouse.—Kiawato Club, Charleston, S. C., let contract to Simons-Mayrant Co., Charleston, to erect clubhouse; 50x75 ft.; frame; shingle roof; wood floors; cost $5500; material purchased; D. B. Hyer, Archt., Charleston. (Lately noted.)

Va., Staunton—Stable.—A. Erskine Miller let contract to erect stable. (See Warehouses.)

RAILWAY STATIONS, SHEDS, ETC.

Mo., Joplin.—Missouri Pacific Ry. Co., E. A. Hadley, Chief Engr., St. Louis, let contract to H. O. Hirsh, Wainwright Bldg., St. Louis, to erect freight depot; foundation under construction. (Previously noted.)

Ga., Macon.—Southern Express Co. let contract to H. B. Hoppendietzel Co., Macon, to erect building at Camp Wheeler.

Tex., Abilene.—Texas & Pacific Railway, C. H. Chamberlain, Chief Engr., Dallas, is reported to have let contract to erect freight depot; cost $40,000. (Previously noted.)

SCHOOLS

Ala., Montgomery.—City Board of Education let contract to A. C. Greeson, 1121 Bell Bldg., Montgomery, to erect 4-room school building in North Montgomery; hollow tile; composition shingle roof; wood floors; city lighting; heating not in contract; cost $7500; Okel & Cooper, Archts., Montgomery. Address contractor. (Lately noted.)

Ala., Plateau.—Mobile County School Board has plans by and let contract to George B. Rogers, Van Antwerp Bldg., Mobile, to erect building for Mobile County Training School; 1 story; 8 rooms; frame; shingle roof; small electric plant for water and lighting; heating not determined; cost $6000. Address Isaiah J. Whitley, Principal, Plateau. (Lately noted.)

Ark., Allport.—Allport Industrial Trade School, R. Amos, Prop. and Mgr., has plans by and let contract to J. C. Criner, England, Ark., to erect building to replace burned structure; 50x80 ft. with L 20x40 ft.; 2½ stories; frame; rubber roof; pine floors; electric lights; heating not decided; cost $8000. Address Mr. Amos. (Previously noted.)

Ark., Fouke.—Trustees let contract to Quilin & Bentley, Texarkana, Ark., to erect 2-room frame school in Fairland Dist.

Ark., Yarbro.—Trustees let contract to F. D. Underwood and E. A. Hale, Blytheville, Ark., to build 4-room brick school.

Mo., Caruthersville.—Board of Education let contract at $35,000 to Frank McClure, St. Louis, to erect grammar school; 8 rooms, gymnasium and running track; also at $3984 to P. S. Ravenstein, Hayti, Mo., to erect 4-room school; completion about April 1, 1918. (Previously noted to have voted $50,000 bonds to erect schools.)

N. C., Durham.—Durham County School Board let contract to W. E. Lynn, East Durham, to erect $4000 dormitory at Lowe's Grove Farm Life School, 6 mi. from Durham; 14 rooms; frame; metal shingle roof; pine floors; individual heaters. (Lately noted.)

Okla., Catoosa, R. F. D. No. 1.—County Board of Education, Minnette Hedges, Supt., Tulsa, Okla., let contract to J. W. Bryan and J. E. Driver, Tulsa, to erect school building; 30x58 ft.; frame; shingle roof; wood floors; stoves; cost $3600; Schumacher & Atkinson, Archts., 518 Mayo Bldg., Tulsa; construction begun. Address J. S. Cook, Catoosa, R. F. D. No. 1.

Tenn., Humboldt.—City let contract to Jack Cole, Paducah, Ky., to erect high school building; 100x90 ft.; brick; tile roof; wood floors; steam heat; electric lighting; cost about $30,000; McGee & Lester, Archts., Scimitar Bldg., Memphis. (Lately noted.)

Tenn., Memphis.—Board of Education of Shelby County let contract to Meers & Dayton, Memphis, to erect Shelby County School; 153x62 ft. with ell; concrete, brick, tile, stucco and timber; composition shingle roof; maple floors; steam heat; electric lights; cost $25,000; Mahan & Broadwell, Archts., Memphis. (Lately noted.)

Tex., Breckenbridge.—School Board let contract to W. J. Galley, Mineral Wells, Tex., to erect 1-story concrete school building; asphalt shingle roof; Texaco roofing; cost $12,000; C. H. Lienbach, Archt., Dallas. (Lately noted.)

Tex., Cleburne.—School Board let contract at $159,915 to H. D. McCoy, Cleburne, to erect high school; also let contract at $21,659 to Kinniston Bros., Dallas, to install heating system; plans by Sanguinet & Staats, First National Bank Bldg., Fort Worth. Tex., call for about 40 rooms; fireproof; gravel roof; concrete and tile floors. (Lately noted.)

Tex., De Leon.—School Board let contract to C. S. Oats, Dublin, Tex., to erect school; cost $20,000; David S. Castle, Archt., Abilene, Tex. (Lately noted.)

Tex., Post.—Post City Independent School Dist. let contract to J. L. Scott, Post, to erect high school building; 62.4x96.4 ft.; brick and stone; Texas overlap or similar roof; concrete and wood floors; cost $25,000; R. E. Gilmore, Archt., Post. Address Contractor. (Lately noted.)

Tex., Roby.—Capitola School Dist. Trustees let contract at $3400 to Jake Smith & Co., Sweetwater, Tex., to erect school building; 4 rooms; brick; R. S. Glenn, Archt., Abilene, Tex. (Lately noted.)

Va., Fisherville.—South River Dist. School Board let contract to Patterson & Pelter to build 4-room school; frame; metal roof; wood floors; cost $3500. (Previously noted.)

W. Va., Beckley.—Board of Education, M. R. Jennings, Secy., let contract to W. R. Robertson, Beckley, to erect high and grade school building on South Kanawha St.; 99x135 ft.; ground, first and second floors; brick and stone; wood and reinforced concrete floors; cost $100,000; W. H. St. Clair, Archt., Charleston; let contract for roofing to Griffith & Dooley and heating to Myers Bros., both of Charleston. (Lately noted.)

STORES

Ala., Fort Payne.—E. S. Killian has plans by and let contract to R. J. Chitwood, Fort Payne, to erect building; 2 stories; 50x80 ft.; for stores, office and Masonic Lodge; brick; Carey roof; concrete and wood floors; cost $8000.

Ga., Pineora.—W. L. Gignilliat and J. V. Norton will erect business building; 2 stories; lower floor for 2 stores 30x80 ft.; upper-story for hall, etc.; Jas. L. Weitman, Contr., Guyton, Ga.

La., Shreveport.—E. A. Frost and F. T. Whited let contract to Central Contracting Co., Shreveport, to erect business building; 311x80 ft.; reinforced concrete; 5-ply asphalt and felt roof; reinforced concrete floors; heating not decided; cost $12,500; Edward F. Neild, Archt., Shreveport. (Lately noted.)

THEATERS

Va., Petersburg.—Liberty Theater Co. has plans by and let contract to F. A. Bishop, Petersburg, to erect theater at Camp Lee; 100x130 ft.; brick, concrete and wood; wood floors; steam heat; electric lighting; concrete sidewalks; cost $20,000; construction begun. Address contractor. (Lately noted.)

WAREHOUSES

D. C., Washington.—John J. Allen let contract to Winfield Preston, 401 Union Savings Bank Bldg., Washington, to remodel building at 42 H. St. N. W., for storage purposes; cost $4190.

Miss., Clarksdale.—Delta Grocery & Cotton Co. let contract to William Morford, 306 McWilliams Bldg., Clarksdale, to erect warehouse; 80x100 ft.; brick; gravel roof; wood and concrete floors; electric lighting; cost $10,000; Chas. O. Pfeil, Archt., Memphis, Tenn.

Okla., McAlester.—Vogel Cotton Co. let contract to J. B. Cambron to erect warehouse; 50x140 ft.

Tenn., Memphis.—United States Bedding Co. let contract to Ozanne & McKnight, Memphis, to erect warehouse; 2 stories; 3 rooms; cost $12,000.

Tenn., Nashville.—E. M. Bond Fireproof Storage Co., Edwin M. Bond, Prest. and Gen. Mgr., has plans by Marr & Holman, Stahlman Bldg., Nashville, for fireproof storage warehouse; 4 stories and basement; reinforced concrete; 60x160 ft.; metal windows and doors with wire glass; first 2 floors divided into 200 rooms with concrete walls and iron doors for storing household furniture; other 3 floors for storing merchandise, automobiles, etc.; office with tile floors, marble wainscoting and mahogany fixtures on first floor; fireproof and burglar-proof vault; mezzanine floor for storing pianos, paintings, etc.; electric elevator 8x20 ft.; contract let; completion by Jan. 1.

Tex., Dallas.—Geo. W. Moore, Dallas, prepared plans and has contract to erect warehouse for Doggett Warehouse & Forwarding Co.; 80x200 ft.; reinforced concrete and brick; roofing 15-lb. 5-ply paper and pitch

and 1-in. gravel; concrete floors; gas heat in office; cost $60,000; lighting, $800; elevator, $2300. (Lately noted under Stores.)

Va., Staunton.—A. Erskine Miller will repair building, damaged by fire, for storing lumber and building material; composition roof; cost $2000; also erect stable to replace burned structure; 2 stories; 32x24 ft.; brick; composition roof; cost $1000; C. W. Lambert, Contr., Staunton.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Automobile Accesssories. — W. L. Beck, Kevil, Ky.—Dealers' prices on automobile accessories.

Bank Fixtures.—W. D. Hall, 206 Gillette Bldg., Tulsa, Okla.—Prices on safe, vault and bank fixtures.

Barrel Carts. — E. O. Painter Fertilizer Co., Jacksonville, Fla.—To correspond with manufacturers of barrel carts.

Bath Fixtures.—Guilford Hotel, Greensboro, N. C.—Bath fixtures for hotel.

Beams (Iron).—Fayetteville Ice & Mfg. Co., Fayetteville, N. C.—24 new or second-hand 12-in. "I" beams, 32 ft. long. (Lately incorrectly noted as 32 in.)

Benders (Reinforcing Bar).—Ideal Concrete Machinery Co., Monmouth Ave., near Colerain, Cincinnati, Ohio.—Catalogs and prices on power and hand-bar benders for bending reinforcing bars on concrete work.

Boiler.—Hackley Morrison, P. O. Drawer 1237, Richmond, Va. — 100 H. P. portable locomotive type or vertical boiler for immediate shipment.

Boiler.—Box 365, Bartow, Fla.—Prices on 60 or 70 H. P., H. T. boiler, with stack and fittings; F. & C. Co. insurance for 125 lbs. working pressure; state make, condition and age.

Boilers.—Pensacola (Fla.) Fertilizer & Oil Co., care of C. H. Munger, 21 Spruce St., New York.—Two 150 H. P. boilers. See Fishery Plant.

Boilers.—See Oil Refinery Equipment.—Osage Mutual Oil & Refining Co.

Boilers. — See Bottling and Syrups Machinery, etc.—Magic Cola Ice & Bottling Corp.

Bottling and Syrups Machinery, etc.—Magic Cola Ice & Bottling Corp., I. S. Fine, Mgr., Mullens, W. Va.—Prices on equipment to manufacture soft drinks, fountain syrups and extracts, including boilers, engines, pumps, etc., building materials and electrical equipment; will also manufacture ice cream and ice. (See Ice Machinery; see Ice-cream Machinery.)

Bottling Machinery. — R. S. Coffman, Searcy, Ark. — Names and addresses of makers of machinery for manufacturing cold drinks.

Brass Sheets.—See Woodworking Machinery, etc.—A. Schonfield & Co.

Bridge Materials. — See Culverts. — Montgomery County Road Com.

Bridge Construction. — Muskogee County Commrs., Lewis F. Kipp, County Clerk, Muskogee, Okla.—Bids until Oct. 2 to construct bridge No. 126-S over Dirdeene Creek, 5 mi. southeast of Webbers Falls; 119-ft. steel truss on concrete piers with 30-ft. wood pile approaches on each end; plans and specifications at office T. P. Clonts, County Engr.

Brick.—See Park Development Materials. Rose Hill.

Broom and Brush Materials.—See Fiber (Brush and Broom).—A. Roth.

Building Materials. — Magic Cola Ice & Bottling Corp., I. S. Fine, Mgr., Mullens, W. Va.—Building materials for $25,000 structure with asphalt built-up roof and concrete floors. (See Bottling and Syrups Machinery, etc.)

Cap-cutting Machinery, etc. — Hollingsworth Clothing Co., Newton, N. C.—Data and prices on machinery to manufacture men's caps.

Carriage (Sawmill).—Colleton Mercantile & Mfg. Co., Ritter, S. C.—Medium size second-hand sawmill in good condition for sawing hardwood into boards; rope feed type with good dogs; state price, make, location, etc.

Cars.—Preston County Power Co., Carleton C. Pierce, Prest., Kingwood, W. Va.—Mine cars.

Cars (Logging).—Buckeye Lumber Co., Chilicothe, O.—Prices on 15 narrow-gauge logging cars.

Cars (Mine).—Blackey Coal Corp., Geo. S. Clark and J. D. Blair, Mgrs., Indian Bottom, Ky.—Prices on mine cars.

Cars and Coaches (Railroad). — Georgia Coast & Piedmont R. R. Co., D. C. Smith, Gen. Mgr. for receivers, Brunswick, Ga.—Will purchase coaches and flat cars.

Cement.—Brevard Hardware Co., Brevard, N. C.—Prices on several cars cement.

Cement, Sand and Gravel.—See Park Development Materials.—Rose Hill.

Chemicals, etc.—G. D. Katsikis, 60 Rue Puvis-de-Chavannes, Marseilles, France.—to represent manufacturers of: Cotton cloth; cotton and woolen tissues; nails for building and for boots; soaps; chemical produce.

Clocks.—British Oriental Trading Co. of Constantinople, 9 New Broad St., London, E. C., England.—To represent manufacturers of alarm clocks.

Cone Machinery.—Fayetteville Ice & Mfg. Co., Fayetteville, N. C.—Data and prices on machinery to manufacture cones.

Concrete-post Machinery and Mixers. — See Park Development Materials. — Rose Hill.

Corn and Cob Mills.—J. C. Beam, Shelby, N. C.—Data and prices on power crusher to grind corn and cob.

Corn Meal Mill.—Carnegie Milling Co., R. N. Schooling, Mgr., Carnegie, Okla.—Prices on corn meal mill.

Cotton Cloth (Rubberized).—R. U. V. Co., 50 Broad St., New York.—Names and addresses of manufacturers of rubberized cloth.

Cotton Machinery.—Texas Textile Co., 1111 Union Bank Bldg., Houston, Tex.—Equipment for daily capacity 2000 lbs. absorbent cotton and 1000 lbs. artificial silk.

Crane.—Sheffield Iron Corp., W. L. Kluttz, Gen. Mgr., Sheffield, Ala.—Prices on 47-ft., 6-in. span, 10-ton traveling crane.

Culverts. — Montgomery County Road Com., Beat No. 2, G. Y. Gillespie, Chrmn., Winona, Miss. — Prices on culverts and bridge materials. (Commrs. will let 2½-mi. road-grading contract Sept. 29, as lately noted.)

Cupola and Car Pullers.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish and install cupola complete, with arrester, hood, roof, etc., schedule 1473; also to furnish and install 2 car pullers for core oven, schedule 1483, both deliveries Philadelphia.

Curbing.—City of Cumberland, Md., Ralph L. Rizer, City Engr.—Bids until Sept. 17 to construct concrete curb and reset stone curb on Davidson St. from Decatur St. northward; work embraces 410 lin. ft. concrete curb and 276 lin. ft. stone curb to be reset; plans and specifications at office City Engr.

Drainage. — Commrs. Allatoona-Proctor Creek Drainage Dist. No. 1, Joe Abbott, Secy., Marietta, Ga.—Bids until Sept. 27 on drainage improvements; work on Allatoona Creek, including east and west forks, consists of dredge ditches containing 241,937 cu. yds. earth and 2550 cu. yds. rock; on Proctor and Butler Creeks, dredge ditches (and team and hand labor), about 32,375 cu. yds. earth; 2300 cu. yds. rock to be excavated at old Mill shoals, Bartow County; will receive separate bids for old Mill shoals 2300 cu. yds. rock excavation, also separate bids for hand and team labor, about 22,535 cu. yds. earth, on Proctor and Butler Creeks; specifications, etc., may be seen at office of the Secy., and office of Clerk Superior Court, Cobb County, at Marietta, or are obtainable from office of Rural Engineering, Washington, D. C.

Drainage System.—Drainage Commrs. of Daviess County, Owensboro, Ky.—Bids until Sept. 20 to construct Panther Creek drainage system; requires excavating 3,633,400 cu. yds. earth; information from C. A. Brown, Engr., Owensboro; specifications from J. R. Hays, Atty.

Drainage System.—Drainage Commrs. of Coahoma County, Chas. W. Clark, Atty., Clarksdale, Miss.—Bids until Oct. 2 to clean and repair drainage system of Hopson's Bayou Drainage Dist., comprising 16 mi. canals already constructed; yardage estimated, 170,000 cu. yds.; plans and specifications at office L. W. Mashburn, Engr., Clarksdale.

Dredge (Floating).—John R. Thrasher, Lexington, Tenn.—Prices on ¾-yd. floating dredge; would buy second-hand dredge in good condition.

Dredging.—Duval County Commrs., Frank Brown, Clerk, Jacksonville, Fla.—Bids until Oct. 1 to extend canal at county's shell bed on Fort George Island, 550 ft.; width, 50 ft. at top; depth, 6 ft. at high water; cut-off and dredge, 6000 cu. yds. dirt from points which project into Pepper Island Creek.

Dredge (Suction).—D. J. Corbett, Secy. Lyon Swamp Drainage Dist., Currie, N. C. Small suction dredge for taking sand and mud from canal.

Dredging Machinery.—Lake Region Timber Co., R. L. Bracey, Mgr., Clermont, Fla.—Prices on dredge machinery; probably use steam shovel.

Ebony Wood. — Huntington Violin Co., Huntington, W. Va.—Data and prices on ebony wood for violins.

Electrical Equipment. — See Mining Machinery (Coal).—T. J. Roberts.

Electrical Machinery.—See Mining Equipment.—Solvay Collieries Co.

Electric-light Plant (Isolated), etc.—Bem Price, Archt., 518 Empire Bldg., Birmingham, Ala.—Prices on installation of electric-light plant, sewerage-disposal system and water-works system, Mississippi State Tuberculosis Sanatorium, Magee, Miss.

Electric-light Plant. — Pensocola (Fla.) Fertilizer & Oil Co., care of C. H. Munger, 21 Spruce St., New York.—Electric-light plant. See Fishery Plant.

Electric Plants Equipment.—Meltreger & Co., 1718 Washburn Ave., Chicago, Ill.—Prices f. o. b. point of shipment on arc lamps, Cooper-Hewitt lamps, flame arc lamps; also buy arc machines, generators, motors, transformers, belting and complete plants.

Electric Wiring.—Hawk & Parr, Archts., Oklahoma City.—Bids until Sept. 20 for electric wiring for Y. M. C. A. building under construction; plans on application to architects.

Elevator.—Guilford Hotel, Greensboro, N. C.—Elevator for hotel.

Engines.—Pensacola (Fla.) Fertilizer & Oil Co., care of C. H. Munger, 21 Spruce St., New York.—3 engines. See Fishery Plant.

Engines (Tractor).—See Road Machinery. J. H. Lyon.

Engines.—See Bottling and Syrups Machinery, etc.—Magic Cola Ice & Bottling Corp.

Farm Implements.—See Graders (Grain). J. O. Booton.

Fiber (Brush and Broom).—A. Roth, New Brunswick, N. J.—Prices and samples of fibers for broom and brush manufacture.

Fishery (Menhaden) Plant. — Pensacola (Fla.) Fertilizer & Oil Co., care of C. H. Munger, 21 Spruce St., New Lork.—Menhaden fishery plant to include fish-handling machinery; presses; corkers; dryers; marine leg elevator; two 150 H. P. boilers; 3 engines; electric-light plant; four 12,500-gal. oil tanks; 2 water tanks; oil and water pumps.

Flood Control Works. — Miami Conservancy District, Ezra M. Kuhns, Secy., Dayton, Ohio.—Bids until Nov. 15 for construction of flood control works as follows: Contract 41—Improvement of Miami River, involving levee embankment, 65,000 cu. yds.; Contract 42—Improvement of Miami River, involving channel excavation, 850,000 cu. yds., concrete in retaining walls and revetment, 25,000 cu. yds. and levee embankment, 80,000 cu. yds.; Contract 43—Improvement of Miami River, involving channel excavation, 465,000 cu. yds., levee embankment, 205,000 cu. yds. and concrete in retaining walls and revetment, 3500 cu. yds.; Contract 44—Improvement of Miami River, involving channel excavation, 1,000,000 cu. yds. levee embankment, 655,000 cu. yds. and concrete in revetment, 2000 cu. yds.; Contract 45—Improvement of Mad River, involving channel excavation, 20,000 cu. yds., levee embankment, 35,000 cu. yds. and concrete in retaining walls and revetment, 1500 cu. yds.; Contract 46—Improvement of Wolf Creek, involving channel excavation, 80,000 cu. yds., levee embankment, 25,000 cu. yds. and concrete in revetment, 1400 cu. yds.; Contract 58—Improvement of Miami River at Hamilton, involving channel excavation, 1,900,000 cu. yds., concrete in retaining walls and revetment, 27,000 cu. yds., reinforcing steel, 550,000 lbs., etc.

Furniture and Fixtures (Courthouse).—Bem Price, Archt., 518 Empire Bldg., Birmingham, Ala.—Prices on furniture and fixtures for Limestone County Courthouse, Athens, Ala.

Gas Generator.—Francis M. Miller, Archt., De Land, Fla.—Names and addresses of acetylene gas generator company.

Gas Plant Material.—Burlington Gas Co., Burlington, N. C.—Material for gas plant; holder of 60,000 ft. capacity; 9 mi. 8, 6, 4 and 2-in. pipe; address Engr. and Contr., B. Van Steenburg, Room 1022, 36 Cortlandt St., New York, and Burlington, N. C.

Generator (Electric) Equipment. — McClary-Jemison Machinery Co., Birmingham, Ala.—200 to 225 K. W. 250-volt direct current generator and engine; in first-class operating condition; complete with switchboard.

Glass (Wire).—See Steel Doors and Window Frames, etc.—Rufus L. Gwyn.

Graders (Grain).—J. O. Booton, Marshallville, Ga.—Prices on medium-sized grain fan and separator or grader for peas and small grain.

Hammer (Steam).—Sheffield Iron Corp., W. L. Kluttz, Gen. Mgr., Sheffield, Ala.—Prices on 800 steam hammer.

Hat-blocking Machines (Hydraulic).—Southern Cap & Hat Mfg. Co., 6 Bibb St., Montgomery, Ala. — Prices on hydraulic blocking machines; Sept. 21 to 30 will be at Metropolitan Hotel, 32d St. and Broadway, New York.

Heating. — Rev. Eli Myers, Dardanelle, Ark. — Heating propositions for church addition.

Heating.—State Armory Commission, Gov. Emerson C. Harrington, Chrmn., Union Trust Bldg., Baltimore.—Bids until Sept. 25 to install heating plants for State armory buildings at Cambridge, Hyattsville and Westminster, Md.; separate bids for each separate building and for 3 buildings as whole; plans and specifications at office James Posey, Consult. Engr., 925 Fidelity Bldg., Baltimore.

Hog (Sawmill).—Fogle Bros. Co., Winston-Salem, N. C.—Sawmill hog for use in planing mill; new or second-hand.

Hoisting Equipment.—Flat Lick Coal Co., Pineville, Ky.—30 to 35 H. P. engine, boiler, drum and 250 ft. ½-in. cable complete; for mine hoist; capable of hauling 5-ton load up 10 per cent. grade.

Hoisting Equipment. — Preston County Power Co., Carleton C. Pierce, Prest., Kingwood, W. Va.—New or second-hand material (including drum, swivels, 1200 ft. ⅝ wire cable, etc.) for gravity plane.

Hoists.—See Mining Equipment.—Solvay Collieries Co.

Houses (Portable).—D. T. R. Retana, 130 Broadway, New York. — Names and addresses of manufacturers of bungalows and country houses.

Ice-cream Machinery.—Magic Cola Ice & Bottling Corp., I. S. Fine, Mgr., Mullens, W. Va.—Prices on ice-cream machinery, 500 gals. daily capacity.

Ice Machinery.—Magic Cola Ice & Bottling Corp., I. S. Fine, Mgr., Mullens, W. Va.—Prices on ice machinery, 30 tons per 24 hours.

Iron Gratings, etc.—See Park Development Materials.—Rose Hill.

Ironworking Machinery.—See Woodworking Machinery, etc.—A. Schonfield & Co.

Levee.—Board State Engrs., 213 New Orleans Court Bldg., New Orleans, La.—Bids until Sept. 26 to construct levee work, Plaquemines Parish, Mississippi River, left bank; Bayou Lamoque Levee (new), 17,000 cu. yds.; Ostrica to Fort St. Philip Levee (new and restoration), 35,000 and 10,000 cu. yds., respectively, total 45,000 cu. yds.; wooden revetment about 10,700 lin. ft.; further information obtainable from office of Board; Frank M. Kerr, Ch. State Engr.

Levee Construction. — Commrs., Atchafalaya Basin Levee Dist., Thos. G. Erwin, Port Allen, La., Secy.—Bids, at office Board of State Engrs., 213 New Orleans Court Bldg., New Orleans, until Sept. 26, to construct Port Barre South Levee; new; contents about 375,000 cu. yds.; further information on application to Board of State Engrs., or to Thos. G. Erwin, Secy., and V. M. Lefebvre, Prest., Port Allen, La.

Levee Construction. — Mississippi River Com., First and Second Dists., Custom House, Memphis, Tenn.—Bids until Sept. 18 to construct 70,000 cu. yds. earthwork in Upper St. Francis Levee Dist.; information on application.

Locomotive.—Box 206, New Orleans, La.—Second-hand narrow-gauge locomotive; good condition; give price and full description.

Machine Tools, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C. Bids to furnish motor-driven sprue cutter and cold saw cutting-off machine, schedule 1480; sand-blast equipment, schedule 1479; pan-and-mixer grinder, 2 motor-driven, 12-in., 18-in., double grinders, also 2 centrifugal sand mixers, schedule 1481, delivery Philadelphia, and 16-24-in. boring and turning mill, schedule 1475, delivery Norfolk.

Machine Shop Equipment.—W. L. Beck, Kevil, Ky.—Dealers' prices on machinery and tools for automobile repairing.

Machines (Lathes; Boring; Milling, etc.). Bureau of Supplies and Accounts, Navy Department, Washington, D. C.—Bids until Sept. 25 for delivering lathes, boring machines, milling machines and rod and dowel machines at navy-yard, Washington; apply for proposals.

Mining Equipment.—Solvay Collieries Co., C. C. Morfit, Gen. Supt., Welch, W. Va.—Considering propositions for power equipment, hoists, tipple, etc., for mines with daily capacity 4000 tons coal.

Mining Equipment.—Superior Coal Co., W. J. Francis, Prest., Raton, N. M.—Data and prices on mining machinery and other equipment for coal developments.

Mining Machinery (Coal). — McCullough Coal Co., 10 Peoples Bank Bldg., Buckhannon, W. Va.—Prices on mining machines and motors.

Mining Machinery (Coal).—T. J. Roberts, Packard, Ky., Secy. Lots Creek Coal Co.—Prices on electrical equipment, conveyor, mining machinery, shaker screens, etc.; for installation Hazard, Ky.; open bids Oct. 1.

Motors (Electric).—Texas Textile Co., 1111 Union Bank Bldg., Houston, Tex.—Electric motors for textile mill.

Motors (Electric).—McCullough Coal Co., 10 Peoples Bank Bldg., Buckhannon, W. Va.—Prices on electric motors.

Motor (Electric).—Holt-Granite Mills Co., Haw River, N. C.—50 K. W. 550-volt 3-phase 60-cycle A. C. motor.

Motors.—Model Steam Laundry, 31 Middle St., Newbern, N. C.—Prices on 2½ H. P., 7½ H. P. and 10 H. P. motors.

Nailing Machine.—Decatur Box & Basket Co., Decatur, Ala.—Prices for immediate delivery on No. 2 Doig 6-track nailing machine.

Oil-mill Machinery.—Pensacola (Fla.) Fertilizer & Oil Co., care of C. H. Munger, 21 Spruce St., New York. — Presses, dryers, corkers, etc., for menhaden fish scrap and oil plant. See Fishery Plant.

Oilmill Machinery.—Canners Supply Co., 113 S. State St., Jackson, Miss.—To correspond with manufacturers of equipment for crushing and extracting oil from soy beans.

Oil-refinery Equipment. — Osage Mutual Oil & Refining Co., Box 603, Pawhuska, Okla.—Prices on oil-field boilers; pipe for refinery; pipe-cutting and threading machine; direct-connected centrifugal pumps; 600-bbl. stills; agitator; acid tanks; storage tanks; laboratory outfit; boilers for refinery; condenser boxes.

Ornaments.—Wm. S. Shull, Box 1834, St. Petersburg, Fla. — Information regarding plaster ornaments.

Park Development Materials.—Rose Hill, Inc., 801 Maison Blanche, New Orleans, La.—Data and prices on various materials, machinery, etc., for park development; run-of bar and washed gravels; cement; sand; concrete mixers; tractor plows, discs and harrows; seeding machinery; road-making machinery and materials; pecky cypress; quantities of marble, granite and brick; trees, palms and shrubs; plants, especially roses; grass seed (Bermuda); fertilizers; vitrified clay drain pipe up to 24-in.; iron gratings; drain-hole covers; heavy wire fencing; concrete post-making machines, and other equipment, material, etc., for park projects.

Paving Materials.—City of Durham, N. C., K. B. Ward, Ch. Engr.—Quotations on paving brick, block, wood block and granite block.

Paving. — City of Miami, Fla., Ellis A. Hoffpanier, Engr.—Bids until Sept. 29 for macadam paving on streets; 4 equal contracts; $200,000 expenditure.

Paving.—Osceola County Commrs., Ernest Mach, Chrmn., Kissimee, Fla.—Bids until Sept. 22 to construct 9 mi. brick paving with concrete curb from corporate limits of Kissimmee to Polk County line; plans and specifications from J. L. Overstreet, Clerk of Circuit Court at Kissimmee; information from State Road Dept. at Tallahassee or Clerk at Kissimmee.

Paving.—Town of Stealy Heights, P. O. at Clarksburg, W. Va., D. L. Mitchell, Mayor.—To open bids Oct. 12 on about 7000 yds. street improvements, mainly concrete; C. C. Fettro, Engr.

Paving. — City of Birmingham, Ala. — Julian Kendrick, City Engr.—Bids until Sept. 18 on construction asphaltic concrete, corrugated concrete and plain concrete paving under Imp. Ord. No. 970-C; specifications on application.

Paving.—City of Minden, La., G. S. Carroll, Secy.—Bids until Oct. 2 on paving part of N. Main St. with No. 1 3-in. V. P. paving blocks; plans and specifications on file with G. S. Carroll, Secy.

Paving.—City of Cumberland, Md., Ralph L. Rizer, Chief Engr.—Bids until Sept. 17 to construct concrete sidewalks and reconstruct brick sidewalks at Green Street subway, also construct concrete wall along Chase St. between Green and Paca Sts.; work embraces 3450 sq. ft. concrete sidewalks, reconstruction 2340 sq. ft. brick sidewalks, also concrete wall embracing 110 cu. yds. concrete and necessary excavation; separate bids on sidewalks and wall; plans and specifications at office City Engr.

Pipe.—See Gas Plant Material.—Burlington Gas Co.

Pipe.—See Oil-refinery Equipment.—Osage Mutual Oil & Refining Co.

Pipe.—See Well-drilling Machinery, etc.—Pittsburg-Electra Oil & Development Co.

Pipe-cutting and Threading Machine.—See Oil-refinery Equipment.—Osage Mutual Oil & Refining Co.

Pipe (Cast Iron), etc.—City of Fairmont, W. Va., Ira P. Smith, Water Commr.—Prices on 1600 ft. Class A, B and S 18-in. cast-iron water pipe, to be used for sanitary sewers; 3000 ft. 4-in., 4000 ft. 6-in., 1600 ft. 8-in. and 7000 ft. 10-in. cast-iron water pipe, Class B, B and S; price per pound on special fittings; all quotations f. o. b. Fairmont; also prices on carload lots f. o. b. Fairmont on best grade sewer pipe, sizes 4, 6, 8, 10, 12, 15, 18 and 20-in., including fittings, such as Ts, Ys and bends.

Pipe (Galvanized; Steel).—John R. Walsh, Turpentine Tank & Storage Co., Provident Bldg., Savannah, Ga.—Prices on about 1200 ft. 4-in. steel galvanized pipe.

Planer and Matcher.—Southern Machinery Exchange, Somerset, Ky.—Four-side planer and matcher complete.

Plug (Deck) Machinery.—Gulfport Ship Building Co., Gulfport, Miss.—Prices on machine to manufacture deck plugs.

Pipe (Vitrified Clay, Drain).—See Park Development.—Rose Hill.

Presses (Punching). — Tucker Duck & Rubber Co., Fort Smith, Ark.—Prices on No. 5 or 6 punch press. (See Woodworking Machinery, etc.)

Pumps. — See Fishery Plant. — Pensacola Fertilizer & Oil Co.

Pumps, etc.—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Oct. 1 for 4 motor-driven hydraulic pumps and 2 accumulators at navy-yard, New York. Specifications (No. 2547) on application to bureau or to Commandant of navy-yard named.

Rail Clamps.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Jobbers' price on set of rail clamps, second-hand, used on steam shovel and 70-lb. rail.

Rails.—Preston County Power Co., Carleton C. Pierce, Prest., Kingwood, W. Va.—12 and 25-lb. new or relaying rails.

Rails.—Blackey Coal Corp., Geo. S. Clark and J. D. Blair, Mgrs., Indian Bottom, Ky. Prices on 80-lb. steel rails, frogs and switches.

Refrigerating Plant. — Treasury Department, Supervising Architect's Office, Washington, D. C.—Bids until Sept. 28 for refrigerating plant in United States Marine Hospital at Key West, Fla.; in accordance with specification; copies at architect's office and at office custodian.

Road Construction.—Cecil County Commissioners, P. M. Groves, Clerk, Elkton, Md.—Bids until Sept. 24 to build section of State Highway on public road between Miller's Corner and Elk Mills; 1½ mi.; plans, specifications and blank forms from State Roads Com., 601 Garrett Bldg., Baltimore, Md.

Road Construction.—Dallas County, Chas. E. Gross, County Auditor, Dallas, Tex.—Bids until Sept. 20 to gravel Miller's Ferry Rd., resurface Richardson Rd. from Vickery to Richardson, and Maple Avenue Rd. from city limits to crosing on M. K. & T. R. R., and California crossing road from Elm Fork River to Hackberry schoolhouse, and scarify and repair East Pike Rd., beginning at city limits to foot of hill just east of White Rock Creek; plans and specifications at office J. F. Witt, County Engr.

Road Construction.—See Sewer Construction, City Commrs. of Huntington, W. Va.

Road Construction. — Maryland State Roads Com., Clyde H. Wilson, Secy., 601 Garrett Bldg., Baltimore, Md.—Bids until October 2 to construct 2 sections State highway; Contract No. F-27, Frederick County, relocation Urbana Turnpike from Monocacy River Bridge to Hopeland, 2 mi. concrete; Contract A-14, Allegany County, 2.33 mi. concrete, Corrigansville to Pennsylvania State line at Ellerslie; specifications and plans for $1 on application to Com.

Road Machinery and Materials.—See Park Development Materials.—Rose Hill.

Road Machinery. — J. H. Lyon, McCormcik County Supvr., McCormick, S. C.—Prices on tractor, road machines, drags, etc.

Rolls (Plate Bending). — Sheffield Iron Corporation, W. L. Kluttz, Gen. Mgr., Sheffield, Ala.—Prices on set plate-bending rolls.

Roofing (Iron). — McEwen Lumber Co., Azalea, N. C.—Quotations on 100 squares or more new or second-hand galvanized corrugated iron roofing; delivery Norfolk.

Safe.—See Bank Fixtures.—W. D. Hall.

Sawmill.—Drewry Bros., Drewryville, Va. Portable sawmill; 5000 to 10,000 ft. daily capacity.

Sawmill Machinery.—Vernon Parish Lumber Co., J. H. Kurth, Jr., Mgr., Pawnee, La.—Prices on sawmill equipment; band and circular; daily capacity 125,000 ft. long-leaf yellow pine.

Sea Wall Construction.—Town of Lake Worth, Fla., A. H. Thomas, Town Clerk.—Bids until Sept. 25 to construct 2000 ft. of sea wall, to include: Spoil bank, 4340 cu. yds.; general fill, 72,860 cu. yds.; rock facing, 1650 cu. yds.; landing dock, length not determined; guard railing around margin of embankment, 2480 lin. ft.; plans, profiles and specifications on file with City Engr., Town Hall; plans and specifications on request to T. J. Drake, Deputy Town Clerk, accompanied by $5 check.

Sewer Construction.—City of Tulsa, Okla., Frank Newkirk, City Auditor.—Bids until Sept. 20 to construct sanitary sewers, including laterals, connections and other appurtenances for sewer districts Nos. 127, 129 and 129 (separate bids for each district); plans, specifications and profiles at office H. H. Wyss, City Engr.

Sewer Construction. — City Commrs. of Huntington, W. Va., O. H. Wells, Commr. Streets, Sewers, etc.—Bids until Oct. 1 to grade, curb and pave certain streets, also construct sewer in Richmond St. from 4th St. southerly 235 ft., 12-in. vitrified sewer tile; also sewer in alley between Jefferson St. and B. & O. R. R. from 7th to 5th Sts., and in alley between Champion Ave. and B. & O. R. R. to west line Kyle Kincaid property, 1445 ft., 12-in. vitrified sewer tile; plans, profiles, etc., at office A. B. Maupin, City Engr.

Sewerage-disposal Plant. — See Electric-light Plant (Isolated), etc.—Bem Price.

Sewing Machine.—A. M. Smyre Mfg. Co., Gastonia, N. C.—Names and addresses of manufacturers of sewing machines with table for mill use for tape of Whitin spinning frame; also wants tape.

Shovel (Steam).—See Dredging Machinery.—Lake Region Timber Co.

Silk Machinery.—Texas Textile Co., 1111 Union Bank Bldg., Houston, Tex.—Equipment for daily capacity 1000 lbs. artificial silk.

Slate Shingles.—Jno. B. Forbes, R. F. D. No. 1, Belcross, N. C.—Slate shingles.

Spray Boxes. — A. Schonfield & Co., 57 Hope St., Glasgow, Scotland.—Names and addresses of manufacturers of "Paul Lechler's spray boxes;" buy large quantities.

Spikes (Railroad).—Atlantic Engineering Co., 605-606 Germania Bank Bldg., Savannah, Ga.—5 to 10 tons good second-hand railroad spikes, ½x5 and 9-16x5½ in.; quote dealer's price first letter.

Steel.—International Equipment Co., 167 Monadnock Bldg., Chicago, Ill. — Dealers' prices on 10 o 20 tons steel; 16-gauge, hot or cold-rolled, 4 to 6-in. wide, various lengths.

Steel Doors and Window Frames, etc.—Rufus L. Gwyn, corner S. Main St. and Harper Ave., Lenoir, N. C.—Prices on rolling steel doors, steel window frames, sash and wire glass; for garage construction.

Steel, Steel Tubing and Shells. — Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—7000 lbs. cold-rolled screw steel; 700 lbs. mild, bright, section, special steel; 7000 lbs. cold-drawn, seamless steel tubing, Schedule 1482; and 40 afterbody shells, Schedule 1477, all delivery Newport.

Tanks. — See Fishery Plant. — Pensacola Fertilizer & Oil Co.

Tank (Steel).—John R. Walsh, Turpentine Tank & Storage Co., Provident Bldg., Savannah, Ga.—Quotations on steel circular tank, 250,000 gals. capacity, or smaller; also consider offers on second-hand first-class tanks.

Tape.—A. M. Smyre Mfg. Co., Gastonia, N. C.—Tape for sewing machine. See Sewing Machine.

Transit.—Marshall Haney, Mining Engr. and County Surveyor, Lydia, Va.—Prices on surveyor's transit.

Threshing Machinery. — William Walker Jones, 510 Tucker Bldg., Raleigh, N. C.—Catalogues and dealers' prices and discount on hand-power pea-threshing machines.

Tools.—See Woodworking Machinery, etc. A. Schonfield & Co.

Vault.—See Bank Fixtures.—W. D. Hall.

Wagons (Lunch).—B. C. Humphries, Oxford, Ala.—Names and addresses of manufacturers of lunch wagons or cars.

Water-works (Isolated). — See Electric-light Plant (Isolated), etc.—Bem Price.

Wire Cable.—See Hoisting Equipment.—Flat Lick Coal Co.

Wire Cable.—Preston County Power Co., Carleton C. Pierce, Prest., Kingwood, W. Va.—1200 ft. ⅝-in. wire cable.

Woodworking Machinery. — See Plug (Deck) Machinery.—Gulfport Ship Building Co.

Woodworking Machinery, etc. — Tucker Duck & Rubber Co., Fort Smith, Ark.—Prices on No. 5 or 6 punch press; several stickers, small size; multiple boring machines; saws; tumbling machines; grinders, etc.

Well-drilling Machinery, etc.—Pittsburg-Electra Oil & Development Co., Pittsburg, Tex.—Prices on casing and well-drilling machinery.

Wire Fencing. — See Park Development Materials.—Rose Hill.

Woodworking Machinery.—A. Schonfield & Co., 57 Hope St., Glasgow, Scotland.—Machinery and tools in connection with woodworking, iron and agricultural trades; 10 tons soft brass sheets 12 in. wide and wider X.008 in. and thicker; quotations c. i. f. Liverpool, Glasgow or Newcastle-on-Tyne; cable prices; terms net cash on presentation bank in Glasgow.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—Concerning the recent report that he and others plan construction of a rapid transit line from Birmingham to the Warrior River, 20 mi., Thos. L. Cannon, Chrmn. of the Alabama Development Corporation says the line is a unit of a system; that the committee is not ready to report, as organization is not completed and all contracts are not closed.

Fla., Jacksonville.—Jacksonville, Miami & Tampa Interurban Railway Co. publishes notice of application for charter to build about 500 mi. of interurban railways from Jacksonville to Pablo Beach, St. Augustine, Daytona, Cocoa and Melbourne to Miami; also from Daytona west to Sanford, and from Hopkins, on the east coast, to Haines City, Lakeland, Plant City and Tampa, and finally on to Tarpon Springs. Motive power, either oil, gasoline or electric; capital stock $10,000,000 of which $5,000,000 is preferred. True Davis, Prest.; Frank N. Campbell, V.-P.; Joseph E. Hunt, Secy.; Ross C. Cox, Treas.; other directors being Edgar E. Middleton, Samuel D. Pullen, R. F. Whalen and Lida E. Mosher, all the foregoing being of St. Joseph, Mo., and Wm. S. Alyea of St. Cloud, Fla.

(Continued on Page 92.)

Are You Actively and Aggressively American?

[From an Editorial in the Manufacturers Record, September 6, 1917.]

There is an aggressive, unceasing propaganda under way in the interest of Germany. It is distributing pamphlets everywhere. It is attacking public credit. It is seeking to destroy confidence in the nation. It is viciously and vigorously anti-American in its activities.

On the other hand, the patriotic people of this country have not yet fully waked up to the necessity of working with equal vigor on the other side, and yet the life of our nation is at stake.

If our readers can find anything better than the pamphlet "America's Relation to the World War—Shall Our Nation Live or Perish?" to distribute in order to counteract this pro-German influence, by all manner of means let them get the best that can be had.

The writer of these editorials has no personal pride of authorship in them. He has simply tried to voice what he knows to be true, and where others can prepare matter better suited for educating the public, we would urge our readers to get the best, but there must be vigorous work.

The printed message must be carried into every home. It is incumbent upon every business man—indeed, upon every patriotic man, however small may be his means, to do his share toward educating the public regarding the campaigning in the interest of Germany now going on in this country.

Have You Read

AMERICA'S RELATION TO THE WORLD WAR

Shall Our Nation Live or Perish?

As viewed by the Editor of the Manufacturers Record

If not, do so, and if you agree with the statements made, we suggest that you purchase additional copies, to the end that this message may have the widest possible distribution where they will do the most good.

The price is 10c. per copy regardless of the number ordered, whether ten or a thousand.

Manufacturers Record - Baltimore, Md.

FINANCIAL NEWS

FINANCIAL CORPORATIONS

Ala., Center.—Farmers & Merchants Bank of Center is chartered and business is to begin at once with $18,500 capital. J. K. Richardson is Prest.

Fla., Wauchula.—People's Exchange Bank, capital $30,000, is authorized to do business. J. G. Durrance is Prest.; W. J. Williams, V.-P.; James T. Handcock, Jr., Cash.

Ga., Albany.—Farkas Trust Co., capital $100,000, is being organized by Mack Farkas, Paul Farkas, Leonard Farkas, Ben. W. Simon and Joe A. Meyer.

Ga., Alma.—Bank of Alma will soon begin business with P. H. Comas, Prest.; V. H. McQuarie, Cashier, and J. Q. Douglas, Asst. Cashier.

Ga., Eatonton.—Citizens' Bank of Eatonton, capital $25,000, is to be chartered, and business is to begin about Oct. 1. Jno. DeJ. Turner will be Cashier. Directors: T. G. Greene, Eatonton, Ga., Chrmn. of Board; W. P. Wallace, Rutledge, Ga., Prest.; M. F. Adams, Atty.-at-Law; Dr. S. A. Clark, R. K. Matthews, Atty., Eatonton; F. L. Batcheleor, Farmer.

Ga., Valdosta.—Jeff Davis Banking Co. incptd., capital $50,000, is organized by G. W. Varn, Valdosta; L. Carter, Jesup; T. R. Knight and L. W. Johnson, Hazlehurst. Business is to begin in about 10 days. The new bank will take over two banks already established there.

La., New Orleans.—Citizens Savings & Investment Co., 315 Carondelet St., incptd., has begun business. Capital $200,000. F. A. Maddox is Prest.

La., Shreveport.—Leopold Wolff & Son Insurance Agency, capital $5000, is incptd.; Leopold Wolff, Prest.; Joseph Wolff, V.-P., Secy. and Treas.

Md., Cumberland.—Jefferson Bank & Trust Co., capital $100,000, is organized with W. A. Higgs of Hanson, Prest.; George B. Goetz, 1st V.-P.; W. C. Riely, 2d V.-P.; Harry N. Watson, Cash., and H. N. Bradley, Asst. Cash.

N. C., Madison.—Farmers Bank & Trust Co. has begun business with J. C. Thompson, Cash.

Okla., Tar River.—Mineral Belt Bank, capital $15,000, surplus $1500, is organized with Q. P. McGehee, Prest.; T. Elmore, Active V.-P., and M. Waldo Hatler, Cashier. Business began Sept. 4.

Okla., Tulsa.—A State bank is chartered with $100,000 capital and $25,000 surplus; James Bowen, Prest.; W. D. Hall, V.-P.; F. C. Moore, Cash. Business is to begin Nov. 1.

S. C., Greenville.—Citizens Trust Co. has been granted a commission; capital $25,000. Petitioners: A. D. L. Barksdale and C. F. Haynsworth.

N. C., Spindale.—A bank is to be opened by the Citizens Bank & Trust Co. T. F. Oates of Grover will be in charge.

S. C., Summerton.—Bank of Santee of Summerton has been granted a commission, capital $25,000. Petitioners: W. W. Davis of Lydia, C. M. Davis and J. M. Plowden of Summerton.

Tenn., Brownsville.—First State Bank is chartered, capital $200,000. Incorporators: J. A. Wilder, George W. Lyle, C. W. Forrest, R. M. Chambliss, Mann Wills.

Tenn., Collierville.—First State Bank & Trust Co. is chartered, capital $15,000. Organizers. J. H. Irby, B. B. Isbell, J. W. Lynch, J. F. Dudeny and H. A. Harris.

Tenn., Covington.—State Savings Bank, capital $10,000, is incptd. by J. H. Flippin, A. P. Smith, L. P. Flippen, I. H. Lowenhaupt and E. L. Warnelle.

Tenn., Nashville.—Nashville Savings & Loan Corporation, capital $60,000, is organized with Charles Hirshberg, Prest.; Edgar M. Foster, Houston Fall and W. W. Gambill, V.-Ps.; Joseph L. Campbell, Treas., and Thomas G. Kittrell, Gen. Counsel. Business is to begin October 1.

Tex., Apple Springs.—First State Bank of Apple Springs is chartered, capital $12,500. L. P. Atmar, Prest.; R. R. Robb, V.-P.; W. L. Hutson, Cashier, Groveton; G. L. Hart and J. R. Ingram, Apple Springs, V.-Ps. Business is to begin about Oct. 10.

Tex., The Grove.—Planters State Bank is authorized to do business, capital $10,000. Will Rancier, Prest.; Charles Kramer, Cash.

Va., Floyd.—Citizens Bank of Floyd County incptd.; capital $25,000; C. W. Guthrie, Prest.; J. S. Smith, Cash. and Secy.

Va., Norfolk.—Bankers' Trust Co., capital $1,000,000, is being organized by John D. Abbitt, Braden Vandeventer, D. L. Flory, A. H. Fowle, W. P. Whitaker, I. A. Luke,

L. H. Brantley and others. Press reports state that Mr. Abbitt will be Prest. Business is to begin Jan. 1.

Va., Roanoke.—Dixie Securities Corporation is chartered, capital $5000. B. P. Shelor, Prest.; C. E. Shelor, Secy.

NEW SECURITIES

Ala., Clanton—(Road, Bridge Warrants).—The remaining $37,000 of the $200,000 of Chilton County warrants have been purchased by J. C. Mayer & Co., Cincinnati, Ohio.

Ala., Huntsville—(Funding).—Bids will be received until noon Oct. 16 (postponed from Sept. 11) by T. L. Patton, Clerk and Treas., for $80,000 of 5 per cent. 20-year bonds.

Ark., Dyer—(School).—Bids will be opened Oct. 6 for $14,000 of 6 per cent. 25-year bonds School Dist. No. 28, Crawford County. J. H. Ayers is Dist. Secy.

Ark., Morrilton—(Bridge).—$150,000 of 6 per cent. 20-year Arkansas River Highway Bridge bonds, Conway County Bridge Dist., have been purchased at 102.25 by J. C. Mayer & Co., Cincinnati.

Fla., Tavares—(Highway).—Report that Lake County proposes to hold an election to vote on $500,000 of bonds is erroneous. No bond issue is contemplated. H. H. Duncan is Clerk.

Fla., Zolfo—(Street).—$15,000 of 6 per cent. 20-year $250 denomination bonds are voted and bids for same will be opened Oct. 15. R. C. Peterson is Clerk.

Ga., Columbus—(Sewer, Hospital, Fire Department).—$150,000 sewer, $15,000 hospital annex and $12,000 fire station bonds defeated.

Ga., Nashville—(Paving, School, Water, Sewer).—City has decided not to issue any bonds. W. R. Smith is Mayor. (Recently noted.)

Ky., Maysville—(Sewer).—Election is to be held to vote on $100,000 of bonds. J. Wesley Lee is Mayor.

La., Clinton—(School).—$10,000 of 5 per cent. 1-10-year bonds East Feliciana Parish School Dist. No. 10 have been purchased at par and interest less $195 by the Whitney-Central Trust & Savings Bank, New Orleans.

La., Hahnville—(Road).—Bids will be received until 10 A. M. Oct. 16 for $70,000 of bonds Road Dist. No. 2, St. Charles Parish. Felicien Lorio is Prest. Police Jury, St. Charles Parish, and Frank Schexnayder, Secy.

La., Lake Charles—(Irrigation).—Bids received 3 P. M. Sept. 20 for $250,000 of 5 per cent. 1-20-year bonds Calcasieu Irrigation Dist. No. 1. Address Dist. Commrs.

La., Rayville—(Improvement).—$8000 of 5 per cent. bonds maturing 1918 to 1928 are to be issued. Address The Mayor.

La., St. Martinsville—(Road).—Bids will be received until 10 A. M. Oct. 13 for $300,000 of bonds St. Martins Parish. L. M. Fournet is Prest. Police Jury, and J. C. Bienvenu, Secy.

La., Thibodeau—(Road).—Election is to be held in Lafourche Parish Oct. 23 to vote on $25,000 of 5 per cent. 25-year bonds Road Dist. No. 3. Address Police Jury.

Md., Frederick—(Refunding).—$380,000 of 4½ per cent. serial, 1918 to 1951, $1000 denomination bonds have been purchased at par plus $101 premium by Baker, Watts & Co., Mercantile Trust & Deposit Co., Nelson Cook & Co., Townsend Scott & Son, J. S. Wilson, Jr., & Co., bidding jointly.

Miss., Iuka—(Road).—$30,000 of 6 per cent. $500 denomination bonds 2d Dist. have been purchased at par and accrued interest by W. S. Brown, Prest. Muscle Shoals Highway Assn., and for resale. Address E. A. Payne, Chancery Clerk.

Miss., Magnolia—(School).—Bids will be received until 2 P. M. Oct. 1 by Board of Supervisors, Pike County, for $3000 of 6 per cent. bonds Leggett Consolidated School Dist. Chas. E. Brumfield is Chancery Clerk.

Mo., Kansas City—(Road, Sewer, etc.).—Bids will be received until 10 A. M. Sept. 29 for $650,000 of 4½ per cent. bonds as follows: Twenty-third Street trafficway $50,000; Blue River sewer bonds $400,000; garbage disposal $50,000; levee and drainage $150,000; denomination $1000. George H. Edwards is Mayor, and Eugene H. Blake, Comptroller.

Mo., Osceola—(Railroad Indebtedness).—Election is to be held in St. Clair County Oct. 9 to vote on $550,000 of bonds. Address County Commrs.

Mo., Platte City—(Road).—$20,000 Parkville Road Dist., Platte County, bonds are voted. Address County Commrs.

Mo., St. Joseph—(Road).—Election will probably be held in Buchanan County to vote on $2,000,000 of bonds. Address County Commrs.

N. C., Greensboro—(Courthouse).—Bids will be received until 2.30 P. M. Oct. 15 for $250,000 of 5 per cent. $1000 denomination Guilford County bonds, dated Nov. 1, 1917, and maturing Nov. 1, 1928 to 1951, inclusive. W. C. Boren is Chrmn. Board of County Commrs.

N. C., High Point—(Funding, Street, Assessment).—Bids will be received until noon Sept. 25 by Thomas J. Murphy, City Manager, for $260,000 funding, $39,000 street and $31,000 assessment bonds.

N. C., Lenoir—(Street).—$90,000 of 6 per cent. bonds have been purchased at $91,607.10 by Stacy & Braun, Toledo.

N. C., Newton—(Bridge).—$100,000 of Catawba County bonds have been purchased by Sidney, Spitzer & Co., Toledo, O.

N. C., Marion—(Road).—$50,000 of 5½ per cent. 30-year $500 denomination bonds North Cove Township, McDowell County, have been sold. W. M. McNairy is Atty.

N. C., Rutherfordton—(Road).—$20,000 of Colfax and $15,000 High Shoal Township, Rutherford County, bonds have been sold at $766.50 above par to F. C. Hoehler & Co., Toledo, Ohio.

N. C., Smithfield—(Street).—$70,000 of 6 per cent. 2-15-year bonds have been awarded at $890 premium to Graves & Blanchett, Toledo, Ohio.

N. C., Southport — (Water-works). — Bids will be received until 2 P. M. Sept. 25 for $12,000 of 5½ per cent. 1-24-year $500 denomination bonds. J. W. Ruark is Mayor.

N. C., Tryon — (Water-works). — Bids received until noon Sept. 20 by M. G. Blake, Town Clerk, for $3000 of 6 per cent. 10-year bonds.

N. C., Winston-Salem—(Sewer).—$175,000 of 5 per cent. bonds, dated Sept. 1, 1917, and maturing Sept. 1, 1918 to 1947, inclusive, have been purchased at $200 premium by R. M. Grant & Co., New York.

Okla., Beaver—(Water-works).—City contemplates issuing $17,000 of bonds. Address The Mayor.

Okla., Elk City—(School).—Election is to be held Oct. 29 to vote on $50,000 of 5 per cent. 20-year $1000 denomination bonds School Dist. No. 6. Address J. G. Scott.

Okla., Granite—(Water-works).—$5000 bonds are voted. Address H. Arnett.

Okla., Guthrie—(Reservoir).—Election is to be held to vote on $30,000 of bonds. J. E. Nissley is Mayor.

Okla., Hugo—(Park, Fair Grounds).—$15,000 of 5½ per cent. bonds are voted. J. A. Wolff is Clerk.

Okla., Indiahoma — (Water-works).—Election is to be held Sept. 28 to vote on $15,000 of bonds. Address A. Finigan.

Okla., Miami—(Water, Light).—Election is soon to be held, it is reported, to vote on $100,000 of bonds. Address The Mayor.

Okla., Oklahoma City—(Public Building). $500,000 of Oklahoma public building bonds are being offered, it is reported. Address E. B. Howard, State Auditor.

Okla., Waurika—(Water-works).—$20,000 of 6 per cent. 20-year bonds recently voted have been purchased at par and interest by Geo. W. and J. E. Piersol, Oklahoma City.

Okla., Wynne—(Sewer).—Election is soon to be held to vote on $16,000 of bonds. J. H. Boozer is City Clerk.

S. C., Columbia—(Park, Abattoir, Market, Street).—Steps are being taken to call an election to vote on $20,000 park improvement, $15,000 city abattoir, $20,000 city market and $260,000 street improvement bonds. L. A. Griffith is Mayor.

S. C., Laurens — (Road). — Bids will be opened 10 A. M. Sept. 21 for $150,000 of 5 per cent. 5-30-year bonds Laurens County. H. B. Humbert is Supvr.

Tenn., Columbia—(Funding).—Bids will be received until Sept. 29 by E. E. Irwin, City Recorder, for $50,000 5 per cent. 20-year bonds.

Tenn., Knoxville—(General Improvement). Special dispatch to Manufacturers Record says that $800,000 of 5 per cent. 30-year bonds have been purchased at par, accrued interest and $1125 premium by the Third National and Union National Bank of Knoxville. Robt. P. Williams is Treas.

Tenn., Lebanon—(Water, Light).—Election is to be held Oct. 6 to vote on $25,000 of 6 per cent. 10-30-year $500 denomination bonds to provide water and light plant. Address F. C. Stratton, Commr. of Finance. (Recently noted.)

Tenn., Maryville — (Street, General Improvement).—Ordinances have been prepared authorizing the issuing of the following 1-5-year $500 denomination bonds, interest not exceeding 6 per cent.: $11,000 street improvement Dist. No. 4; $5500 general improvement Dist. No. 4; $22,000 street improvement Dist. No. 3; $8000 street improvement Dist. No. 2. Sam Everett is Mayor, and J. L. Tweed, Recorder.

Tenn., Morristown—(Sewer).—Bids are to be asked for $15,000 of bonds. Address The Mayor.

Tex., Archer City—(Warrants).—$6000 of warrants dated Oct. 25, 1916, have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Austin.—State Board of Education has purchased school district bonds aggregating $208,470.

Tex., Austin—(Sewer, Street, School, etc.). Election is to be held Oct. 2 to vote on $365,000 of bonds as follows: Sewerage-disposal plant $185,000; sewerage system extension $40,000; street improvement $50,000; funding school $50,000; fire-alarm system $40,000. Address A. P. Wooldridge, Mayor.

Tex., Austin.—Bonds approved by Atty.-Genl.: $20,000 of 5 per cent. 10-40-year bonds Dallas County Common School Dist. No. 69; $70,000 of Hewett Township road, Carter County; $4000 of 5 per cent. 10-40-year Young County Common School Dist. No. 28; $100 5 per cent. Shelby County Common School Dist. No. 37; $1500 of 5 per cent. 5-20-year Mill County Common School Dist. No. 29; $500 of 5 per cent. 5-10-year Jesse Independent School Dist., Hill County.

Tex., Barstow—(Road).—Election is to be held in Road Dist. No. 1, Ward County, to vote on $60,000 of bonds. Address County Commrs.

Tex., Cameron — (School). — $2000 Conley Dist. and $2000 Duncan Dist., Milam County, bonds are voted. Address School Board.

Tex., Daingerfield — (Road). — $35,000 of Omaha Precinct, Morris County, bonds are voted. Address County Commrs.

Tex., Eastland—(Road).—$120,000 of bonds Road Dist. No. 1, Eastland County, are voted. Address County Commrs.

Tex., Harlingen—(Street).—$10,000 of 6 per cent. serial street-improvement warrants have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Orange—(Road).—Election is to be held in Orange County Oct. 9 to vote on $30,000 of bonds Precinct No. 4. Address County Commrs.

Tex., Paris—(Paving).—Election is to be held October 9 to vote on $20,000 of bonds. Address The Mayor.

Tex., San Angelo—(Road).—Election is to be held in Tom Green County between Oct. 20 and 25 to vote on $200,000 of bonds. Address County Commrs.

Tex., Snyder—(Road).—Election is to be held in Scurry County Oct. 13 to vote on $100,000 of 5 per cent. 40-year bonds. Address County Commrs.

Va., Richmond—(Street).—$50,000 of 5 per cent. 30-year bonds have been purchased by Frederick E. Nolting & Co., Richmond.

W. Va., Charleston — (Road). — $30,000 of Kanawha County bonds have been purchased by the workmen's compensation department of West Virginia. Grant Copenhaver is Prest. County Court.

W. Va., Elm Grove — (Street). — Election will probably be called to vote on $85,000 of bonds. Address Town Council.

W. Va., Stealey Heights, P. O. Clarksburg—(Street).—$15,000 of 6 per cent. 10-year $500 denomination bonds are voted and bids for same will be opened Oct. 12. D. L. Mitchell is Mayor and L. A. Hess, Recorder.

FINANCIAL NOTES

By appointment of the Comptroller of the Currency, James K. Doughton will, on Oct. 15, become chief national bank examiner of the Fifth Federal Reserve District at Richmond; he is now occupying the same position in the Sixth District at Atlanta. Elmore F. Higgins will, on the same date, be promoted to the position vacated by Mr. Doughton, becoming chief examiner for the Sixth District at Atlanta. He is now assistant chief examiner at Chicago and formerly was assistant clearing-house examiner at New Orleans.

RAILROAD CONSTRUCTION

(*Continued from Page 88.*)

Fla., Jacksonville.—St. Elmo W. Acosta, Secy. Jacksonville & Seashore Electric Association, says it plans construction of an electric railway from Jacksonville to the seashore, about 25 mi., via the proposed new highway bridge over the St. Johns River. Popular subscriptions are planned to raise necessary funds, the city to operate the road by power from the municipal electric plant. (See Manufacturers Record, Sept. 13.)

Ga., Augusta.—Savannah River Terminal Co. has accepted franchise from city council permitting extension of tracks. C. A. Wickersham is Prest.

Ga., Brunswick.—Part of the proceeds of the proposed issue of receivers' certificates of the Georgia Coast & Piedmont Railroad will be used to fill in about 2 mi. of trestle across the Altamaha River delta between Brunswick and Darien. D. C. Smith, Brunswick, is Gen. Mgr.

Ga., Savannah.—The Rotary Club is interested in plans for the construction of an electric railway from Savannah to Port Wentworth, several miles. Carleton B. Gibson is Prest.

Ky., Irvine.—Survey is reported made for extension of 7 mi. on Catron's Creek, and 1 mi. on Slater's Fork, to develop coal mines of the Kentenia Corporation. Louisville & Nashville Railroad will build these spurs. H. C. Williams is Chief Engr. of Construction at Louisville, Ky.

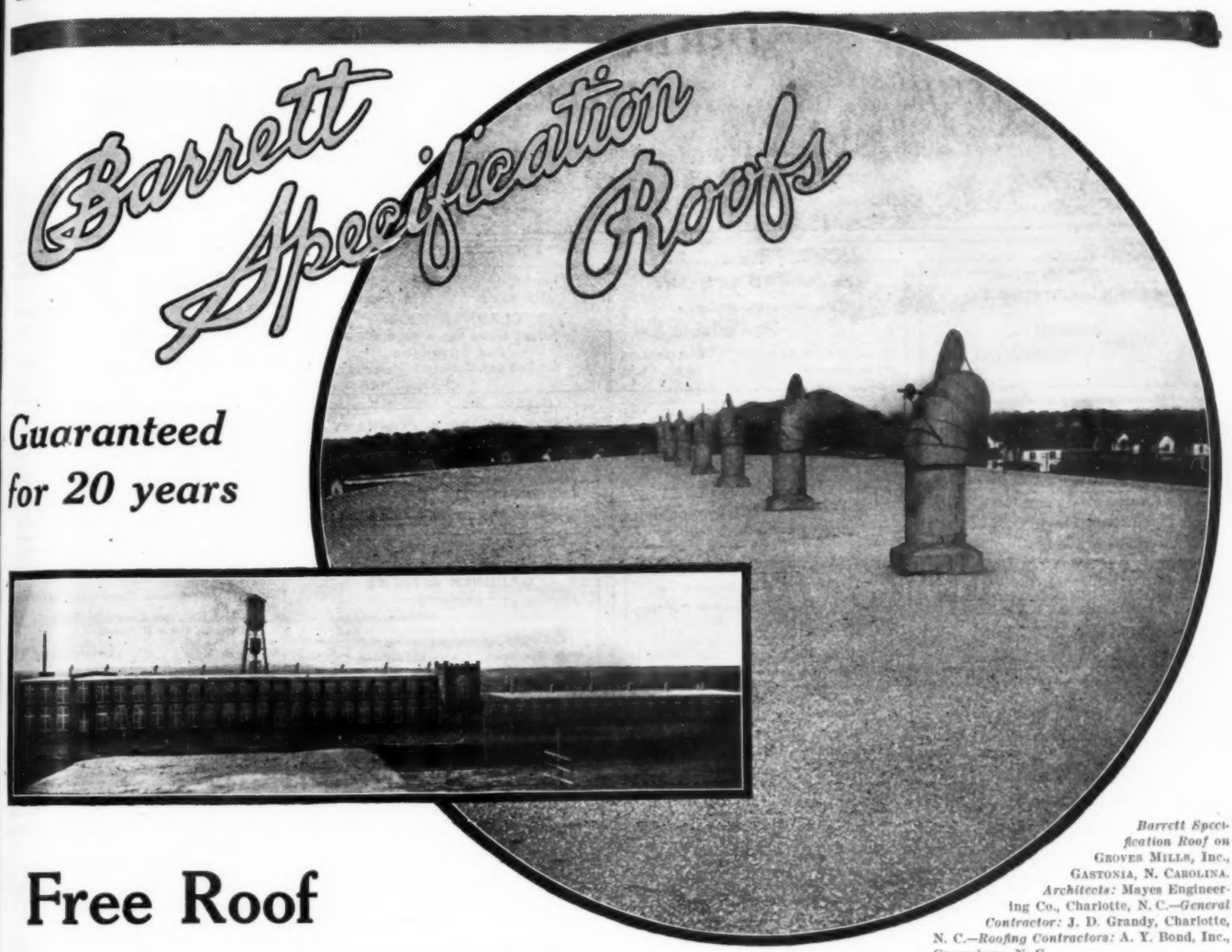
Ky., Shelbyville. — Philipp & Beach, construction engineers, Philadelphia, Pa., are reported to have made survey for the proposed electric interurban railway from Shelbyville to Frankfort, Ky., about 20 mi. J. W. Gudgel of Shelbyville, or Secretary Dunn of the Chamber of Commerce at Frankfort, Ky., may give information.

Okla., Enid.—Atchison, Topeka & Santa Fe Railway says it has no plans for a line from Enid to connect with the Osage County & Santa Fe Railway, now building from Owen to a point below South of Fairfax (near Ralston), which is all that the system is doing in Oklahoma at present. This refers to recent press report. (See Manufacturers Record, Sept. 13.)

STREET RAILWAYS

Ala., Bessemer. — Birmingham Railway, Light & Power Co. plans construction of double track on 19th St. J. S. Pevear is Prest.

Va., Norfolk.—Virginia Railway & Power Co. contemplates building connecting tracks on Omohundro Ave. and 25th St. to accommodate traffic from Norfolk to the naval base at Pine Beach. T. N. Jones, Jr., is Asst. Gen. Mgr. at Norfolk.



Barrett Specification Roof on GROVES MILLS, Inc., GASTONIA, N. CAROLINA. *Architects:* Mayes Engineering Co., Charlotte, N. C.—*General Contractor:* J. D. Grandy, Charlotte, N. C.—*Roofing Contractors:* A. Y. Bond, Inc., Greensboro, N. C.

Free Roof Insurance for 20 Years

You are proud of that new plant—proud of its modern construction, its efficiency, its output. It represents a big investment of money and enterprise.

Of course it is insured against fire. But how about the roof? Is your investment there insured?

If you cover your building with a Barrett Specification Roof you will get such insurance in the shape of a 20-Year Surety Bond.

Our experience has proved that a roof laid strictly according to The Barrett Specification will last much longer than twenty years without repairs of any kind, and our new plan of issuing the 20-Year Surety Bond Guaranty gives owners the benefit of that experience. Here is our offer:

On all roofs of fifty squares or more, in all towns of 25,000 or more throughout the United States and Canada, and in smaller towns where our Inspection Service is available, we will give a 20-Year Surety Bond Guaranty, provided the roof be laid strictly according to The Barrett Specification of May 1, 1916, and by a roofer approved by us.

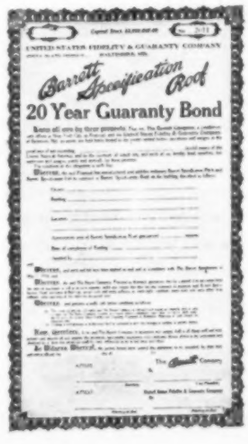
This bond exempts the owner from all expenses of maintenance and repairs for a period of twenty years.

We claim only the right to have an inspector on the roof during construction to insure strict compliance with the Specification.

The risk is ours, the gain is yours.

Leading architects, engineers and roofing contractors throughout the country are familiar with and endorse our plan.

A line to our nearest office will bring any information you may desire concerning this proposition.


UNITED STATES FIDELITY & GUARANTY COMPANY
Barrett Specification Roof
20 Year Guaranty Bond

A copy of The Barrett 20-Year Specification, with roofing diagrams, sent free on request.

The Barrett Company

Largest Manufacturers in the World of Roofing and Roofing Materials

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati Pittsburgh
Detroit Birmingham Kansas City Minneapolis Nashville Salt Lake City Seattle Peoria
THE PATERSON MANUFACTURING COMPANY, Limited: Montreal Toronto Winnipeg Vancouver
St. John, N. B. Halifax, N. S. Sydney, N. S.

DIRECTORY

ARCHITECTS ENGINEERS CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

MILBURN, HEISTER & CO.
Architects
WASHINGTON, D. C.

Government Landscape Architect—1910-1916.
GEORGE BURNAP
Landscape Architect
Washington, D. C
PARKS SUBDIVISIONS ESTATES

WILLIAM A. STANTON
Architect and Structural Engineer
All Classes of Concrete and Steel Construction
308 First Nat. Bank Bldg. VICKSBURG, MISS.

L. A. GUERINGER
M. Am. Soc C. E.
Civil Engineer
VICTORIA, TEXAS

HENRY EXALL ELROD
Mem. Am. Soc. M. E. Mem. Am. Soc. C. E.
Mem. Am. Water-Works Assn.
Roads, Pavements, Municipal Works, Reports.
Interurban Bldg. DALLAS, TEXAS

DANIEL B. LUTEN
Designing and Consulting Engineer
Reinforced Concrete Bridges exclusively.
Associate Engineers in each State.
INDIANAPOLIS, IND.

WILLIAM C. SPIKER, C. E.
Mem. Am. Soc. Civ. Engrs.
Consulting Engineer
Reinforced Concrete and Structural Steel Buildings and Bridges.
1408-9 Candler Bldg. ATLANTA, GA.

C. W. HUMPHREY
Consulting Engineer
Designing—Financing—Construction—Operation.
Electric Lighting, Power, Railway, Transmission, Hydro-Electric and Industrial Properties.
327 South La Salle Street CHICAGO

CHARLES T. MAIN
Member A. S. M. E.
Textile Mills
WATER POWER DEVELOPMENTS
201 Devonshire Street BOSTON

Concrete-Steel Engineering Co.
Designing and Supervising Engineers
Concrete-Steel Bridges
Concrete-Steel Tanks
Park Row Bldg. NEW YORK

C. E. SHEARER
Structural *Consulting Engineer* Industrial
Est. March, 1910
738 Randolph Bldg. MEMPHIS, TENN.

S. CHESTER MARKLEY
Consulting Sanitary Engineer
Water Works, Sewers, Investigations of Epidemics.
ROANOKE VIRGINIA

THE ARNOLD COMPANY
Engineers—Constructors
Electrical—Civil—Mechanical
105 South La Salle St CHICAGO
111 Broadway NEW YORK

DAY & ZIMMERMANN, Inc.
Engineers
Layout, Design and Construction of Industrial Plants and Public Service Properties. Examinations, Reports and Valuations. Highway Engineering. Operation of Public Service Properties.
PHILADELPHIA

HUGH L. COOPER & CO.
General Hydraulic Engineering
Including the Design, Financing, Construction and Management of Hydro-Electric Power Plants.
101 Park Avenue NEW YORK

MORRIS KNOWLES
M. Am. Soc. C. E. Mem. Am. Soc. M. E.
Hydraulic and Sanitary Engineer
Investigations and Valuations for Purchase or Financing Water and Sewer Systems, Water Power, Drainage and Irrigation Systems.
1200 B. F. Jones Law Bldg. PITTSBURGH, PA.

MARTIN J. LIDE
Consulting and Constructing Electrical and Mechanical Engineer
BIRMINGHAM, ALA

GEO. F. WESTON
Member Am. Society Agricultural Engineers
Preliminary Reports and Operating Plans for SOUTHERN AGRICULTURAL DEVELOPMENTS
Soils, Drainage, Livestock and Cropping
Twenty-seventh Year
36 East 23rd Street NEW YORK, N. Y.

WILLARD, BOGGS & CO.
General Contractors
Water Power Development. Railroad Construction. Buildings.
SPARTANBURG, S. C.

L. SCOTT TWOGOOD
Civil and Sanitary Engineer.
Steel and Reinforced Concrete Structures, Buildings, Bridges, Industrial Plants, Viaducts. Water Supply, Water Purification, Sewerage Systems, Sewage Disposal, Municipal Improvements.
1514-15 Bank of Commerce Bldg. MEMPHIS, TENN.

FREELAND-KLYCE ENG'G CO.
Consulting Engineers
Concrete and Steel Structures
NASHVILLE, TENN.

HEDRICK & HEDRICK
Consulting Engineers
Bridges, Viaducts and other Structures of Steel and Reinforced Concrete.
Interstate Building KANSAS CITY, MO.

Architects Engineers Contractors

Your card on these pages will place you directly before the active forces of the South and Southwest.

J. M. CLARK, Mem. A. I. M. E.
C. E. KREBS, Mem. A. I. M. E.
G. R. KREBS J. W. MORGAN
CLARK & KREBS
Civil and Mining Engineers and Geologists
Coal, Oil and Gas
Railroad and Municipal Engineering
CHARLESTON, W. VA.

W. E. MOORE & COMPANY
Engineers
Reports, Designs, Supervision. Public Service Properties. Power Developments, Distribution and Application.
Union Bank Building PITTSBURGH, PA.

W. M. GARDNER, Mem. Am. Soc. C. E. H. N. HOWE, Assoc. Mem. A. M. Soc. C. E.
GARDNER & HOWE
Engineers
Designs, Estimates and Supervision; Concrete Bridges, Viaducts, Buildings, and other Structures.
Porter Building MEMPHIS, TENN.

C. L. BROOKS ENGINEERING CO.
Packing-House and Cold-Storage Engineers.
We help you raise the capital, build the plant and run it successfully. We make a specialty of Southern plants.
Main Office—MOULTRIE, GA.
MINNEAPOLIS, MINN. 736 Plymouth Bldg. ATLANTA, GA. 711 Empire Bldg.

E. W. MYERS
Consulting Engineer
Water Power. Water Supply. Sewerage.
GREENSBORO, N. C.

BLODGETT CONSTRUCTION COMPANY
Contracting Engineers
Steel, Wooden and Concrete Bridges, Pneumatic and Open Sinking
Railroad Construction and Steam Shovel Work
KANSAS CITY, MO. SHREVEPORT, LA. MONTGOMERY, ALA.

HOWARD M. GASSMAN
Mem. Am. Soc. M. E. *Consulting Engineer* Mem. Am. Inst. E. E.
EQUIPPING MILLS AND MINES WITH POWER.
REPORTS ON AND DESIGNING OF MANUFACTURING AND POWER PLANTS.
Brown-Marx Building BIRMINGHAM, ALABAMA.

SAVANNAH ENGINEERING AND CONSTRUCTION CO.
SAVANNAH, GEORGIA
Engineers and Constructors

HUNT ENGINEERING CO.
Designing, Constructing and Operating Engineers and Contractors
Experts in Portland Cement Engineering
Examinations and Reports Made
513-517 Republic Building KANSAS CITY, MO.

C. W. LANE & CO., Inc.
General Contractors
Steam and Electric Railroads, Water Powers Developed.
City Water-Works, Sanitary Sewers, Street Paving, Concrete Buildings.
General Offices, Healey Building ATLANTA, GA.

THE S. R. SMYTHE COMPANY
Engineers PITTSBURGH, PA. *Contractors*
Steel Works, Rolling Mills, Blast Furnaces, Hot Blast Stoves, Furnaces for All Purposes. Operated with Producer Gas, Natural Gas, Oil or Pulverized Coal. Coke Ovens. Gas Producers, Hand Operated or Mechanical.
The Valve of the Era. SCHILD SLIDING GAS AND AIR REVERSING VALVES.

DOW & SMITH
Chemical Engineers *Consulting Paving Engineer*
A. W. Dow, Ph.B. F. P. Smith, Ph.B.
Mem. Am. Inst. Ch. Engrs.
Mem. Am. Soc. Civ. Engrs.
Asphalt, Bitumens, Paving, Hydraulic Cement, Engineering Materials
131-3 E. 23d Street NEW YORK

GILBERT C. WHITE, C. E.
M. Am. Soc. C. E.
M. Am. W. W. Assoc.
Consulting Engineer
Water Works Streets
DURHAM, N. C.

WILLIAM SPEED
Civil Engineer and Landscape Architect
Chief Engineer Louisville-Nashville Division Dixie Highway.
Starks Building LOUISVILLE, KY

EDWIN WORTHAM, E. E.
Consulting Engineer
Industrial Plants, Factories, Municipal Work of all kinds, Steam and Electric Railways, Public Utilities, Reports, Valuations, Supervision, Franchises Drawn, Properties Operated.
Suite 47, Allison Bldg. RICHMOND, VA

WADDELL & SON
Consulting Engineers
Reinforced Concrete and Steel Bridges. Elevated Railways. Difficult Foundations. Advisory Services and Appraisals.
Suite 500-165 Broadway, New York.
MAIN OFFICE, KANSAS CITY, MO.

DIRECTORY

ARCHITECTS ENGINEERS CONTRACTORS

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Ford, Bacon & Davis,
Engineers.
115 Broadway, New York
New Orleans San Francisco

SCOFIELD ENGINEERING COMPANY
Consulting, Designing and Supervising Engineers
TEXTILE—MECHANICAL—ELECTRICAL—CIVIL
Commercial Trust Building PHILADELPHIA

TUCKER & LAXTON
Contracting Engineers
Filters, Concrete Work, Hydro-Electric and Steam Electric Construction
CHARLOTTE, NORTH CAROLINA

SPRAY ENGINEERING COMPANY
Engineers — For Spray Cooling Ponds, Irrigation Systems, Aerating Reservoirs, Odor Condensers, Gas Washers.
Manufacturers — Of Air Washers, Spray Nozzles, Aerating Nozzles, Asphalt Nozzles, Park Sprinklers.
93 Federal Street BOSTON, MASS.

ALLEN-SCALES ENGINEERING COMPANY
INCORPORATED
Engineers and Contractors
Water Works Power Plants
Heating and Ventilation
209 Church Street NASHVILLE, TENN.

FRANCIS R. WELLER, M. Am. Soc. C. E.
Consulting Engineer
Hydro-Electric and Steam Power Plants, Reports, Appraisals, Designs, Construction, Properties Operated
Hibbs Building, WASHINGTON, D. C.

R. K. STEWART & SON
General Contractors
Concrete Construction, Waterworks, Buildings. SOUTH BOSTON, VA.

THE WEST CONSTRUCTION CO.
Street Paving Contractors
CHATTANOOGA, TENN.

ARCHITECTS ENGINEERS
CONTRACTORS
Your card on these pages will place you directly before the active forces of the South and Southwest.

J. E. SIRRINE
Mill Architect and Engineer
SPECIALTY:
Textile Mills and Water Power Developments
GREENVILLE, S. C.

STONE & WEBSTER
Industrial Plants and Buildings, Steam Power Stations, Water Power Developments, Transmission Lines, Gas Plants, Electric and Steam Railroad Work, Substations.
NEW YORK BOSTON CHICAGO

THE J. G. WHITE COMPANIES
Engineers—Contractors—Financiers—Managers
43 EXCHANGE PLACE, NEW YORK
London Chicago

GRAVES ENGINEERING CO., Inc.
Engineers and Operators
Industrial Properties and Public Utilities
25 Pine Street NEW YORK

ARTHUR G. McKEE & CO.
Engineers and Contractors
Power Plants, Industrial Buildings, Metallurgical Plants, Blast Furnaces, Storage Bins, Coal-Handling Equipment.
Design——Construction CLEVELAND, OHIO.

H. M. BYLLESBY & COMPANY
Engineers and Managers
Purchase, Finance, Design, Construct and Operate Electric Light, Gas, Street Railway and Water Power Properties. Utility Securities Bought and Sold. Examinations and Reports.
NEW YORK Trinity Bldg. CHICAGO Continental & Commercial Bank Bldg. TACOMA WASHINGTON

HENRY J. COX AND COMPANY
Assoc. Mems. Am. Soc. C. E.
Engineers and Contractors
Railroads, Highways, Drainage and Levees
ALEXANDRIA LOUISIANA

SANDERSON & PORTER
Engineers
CHICAGO 72 West Adams St. NEW YORK 52 William Street SAN FRANCISCO Nevada Bank Bldg.

THE J. B. McCRARY COMPANY
Engineers ATLANTA, GEORGIA
MUNICIPAL IMPROVEMENTS
Southern work only. Have built over half of the Water, Light and Sewer Systems in Georgia and Alabama. We Design—Finance—Superintend. Bonds Purchased.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

To Engage in Foreign Business.

The Peerless International Corporation, 50 Pine St., New York, is a new organization to conduct export and import trade and a general engineering and contracting business in foreign fields. Alfonse Kaufman is preseident; S. Weiner, vice-president; William M. Blain, treasurer, and Fredefick A. Beardsley, secretary.

New Location; Better Facilities.

The Booth Felt Co., Inc., has changed the location of its plant, the new address being 740 Sherman St., corner of Polk St., Chicago, Ill. This change was made necessary by the rapid increase of the company's business among manufacturers in the Central West. Its new facilities will enable it to carry a larger stock than heretofore, and also to fill orders with even greater dispatch than has been its custom.

Anent the Child Labor Law.

The Allegheny Steel Co., Oliver Bldg., Pittsburgh, Pa., has issued a circular letter which may embody a suggestion of value to other concerns, industrial and otherwise. After referring to the taking effect on September 1, 1917, of the Federal law relating to child labor, the letter says: "For our own protection we request that, commencing at once, all invoices covering material furnished us bear on the face thereof, either printed or stamped, the following guarantee: 'We, the undersigned, do hereby guarantee that the goods listed herein were produced or manufactured in accordance with the Federal Child Labor Act of September 1, 1916.' This statement should be properly signed."

Works Engineer Appointed.

H. J. Richardson has been appointed works engineer for the Berger Manufacturing Co., Canton, O., his work including the power plant, new construction, maintenance and repair of manufacturing equipment and buildings. Recently Mr. Richardson was connected with the New England Westinghouse Co., being manager of its gauge department, and previous to that he was acting chief engineer of the ordnance department of the Crucible Steel Co., Harrison, N. J., and before that he was with the Commonwealth Edison Co. of Chicago, the last seven years of this service being in the engineering department. In view of the extensive growth of the Berger Manufacturing Co., Mr. Richardson's wide experience should be of considerable value to his new employers.

Cantonment Road Building in Record Time.

A record-breaking piece of road building was completed last week in connection with the army cantonment near Louisville, Ky. This is one of the few military establishments that have built permanent roads. In 63 working days the contractor completed 63,360 square yards of Trinidad asphaltic concrete highway laid on a concrete base, or about 6 miles of road 18 feet wide. A mile of the road was over a four-foot fill, and immediately upon its completion a traffic count showed that 4000 vehicles passed over it within the first hour. Most of these vehicles were motor trucks and wagons carrying loads of from one to five tons. The record made by the Bickel Asphalt Paving Co., the contractors, is all the more remarkable in view of the fact that it was necessary to haul and crush all the stone used on the work.

TRADE LITERATURE

Important Electric Bulletins.

The General Electric Co. has prepared and is distributing a loose-leaf binder containing five of its latest bulletins on wires and cables as follows: 49300, on Armored Cables; 49302, Wires and Cables, General; 49301, Varnished Cambric and Paper-Insulated Cables; 49304, Conductors Insulated with Vulcanized Rubber Compound; 49303, Splicing Materials and Junction Boxes. Every user and purchaser of wires and cables should have a copy of this handy guide, as it contains valuable information regarding every phase of this particular branch of the electrical industry.

About the "Bilt Rite" Furnace.

An interesting and seasonable circular has been issued by the Hammond Heating Co., heating and ventilating engineers, Cincinnati, O. It relates to the "Bilt Rite" hot-air furnace for both hard and soft coal, which, it is said, is "built on right principles for the production of generous, uniform heat. Has celebrated shaking and dumping grate, winged fire pot, which prevents cracking and supports upper weight of furnace; water pan and correct draft regulation, very large combustion chamber, built for service and durability." These furnaces are made in all sizes. They are specially designed to avoid dust.

Short Belt-Driven Air Compressors.

Bulletin No. 29 of the Nagle Corliss Engine Works, Erie, Pa., is devoted to describing and illustrating Class A-E and A-E 2 short belt-driven air compressors. It says that the short belt drive presents many advantages as compared with other methods of transmitting power, having proved satisfactory on numerous installations, both large and small. It is further stated that the first cost is very much less as compared with chain or gear drive, that working parts are not racked and vibrated, that an expert erecting engineer is not required, as it is easily installed; it needs little floor space, the foundation is inexpenisve and the mechanism is noiseless in operation. Tables of dimensions are presented, also similar tables relating to air receivers.

Link-Belt Products Described.

"The wise use of lubricant is one of the best practices in any machine shop or factory." This sentence, taken from the introduction to book No. 342 of the Link-Belt Company, Chicago, concerning its silent chain drives, is a volume in itself, as is also the following paragraph: "It is a principle of practical mechanics that any chain drive will last longer and require less attention if it operates through an oil bath in a tight casing, than if it runs exposed, with little or no oil." The illustrations in the book show the workings of the belt drives in the casings and also their exterior appearance in connection with machinery. Book No. 246 of the same company relates to the Link-Belt electric hoists, which it says are designed and constructed for hard and continuous use within their rated maximum capacity. The publication is handsomely prepared and the illustrations are fine and full of information. There are also excellent tables of value.

GRAND CENTRAL PALACE

Third National Exposition

OF

Chemical Industries

Week of September 24th

¶ Chemistry has altered the balance of power among nations. It has revolutionized warfare and transformed the life of man.

¶ In the past two years chemistry has developed the industries of our nation; brought them to a state of self-containedness and established us as a market for the world.

¶ It has made established industries more productive. It has taken undeveloped resources and created needed industries therefrom.

¶ It has been a general factor in building the national prosperity.

¶ In all these achievements the National Exposition of Chemical Industries has taken an active part.

¶ To it in their hour of need our manufacturers, industrial men and scientists turned—they saw, had visions and inspirations, and with the materials, machinery and equipment there placed before them, they were the better able to build more solidly.

¶ The Exposition is more complete now than heretofore, shows the whole range of chemical industry from the raw material through the machinery to the finished products, and how they are applied in the many industries and crafts.

¶ Among the features of the program to hold your every interest are the speakers drawn from the world's affairs, the meetings of the societies, and of motion pictures showing many industries in their operation.

¶ This will be America's Greatest Industrial Exposition—

DON'T FAIL TO ATTEND.

Third National Exposition of Chemical Industries

Grand Central Palace **NEW YORK**

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Wood Used to Wrap Bundles.

The use of wood as wrapping paper may seem contradictory. But the Expanded Wood Co., Evansville, Ind., after some little experimenting and some improving of its product, is offering a wood substitute for wrapping and packing that has a peculiar merit all its own.

Given a thin sliver of wood, it is apparent that it will be flexible; given a thinness that will vary, as requirements make desirable, of from one-twelfth to one-sixtieth inch, it is apparent that it can be handled as well as paper; by stitching various lengths together it is apparent that a long piece or roll of material is secured which can be cut to any desired size; still it is wood.

Expanded Wood in a Roll.

There is, therefore, a certain toughness about it that paper does not possess, and, being of wood, it will protect a package in transit from rain. For certain kinds of materials the stitching already mentioned is reinforced by including canvas or wooden strips. In the latter form the wrapping becomes a veritable crate, combining the wrapping and the crate in one substance, but requiring only one operation in applying to procure the complete effect. As a concrete instance, a shipment of hats in boxes covered with reinforced expanded wood supplies protection against the accidental damage of a shipment and protection against the elements.

Where the reinforcement is not used, expanded wood is taking the place of burlap. For example, in the shipment of tires it has been learned that this material, cut to the proper diameter for the top and bottom of the package, with long strips the proper width of the tread to be wound around it, makes an admirable protective device at a modest cost.

Expanded wood lends itself to so large a number of products as to seem to be limitless, but in a booklet issued by the manufacturers an attempt has been made to enumerate its adaptations. Mention is made of the process of manufacture, its utility, resistance to friction and its cost, with reference to lowered costs of shipments by reason of the light weight of expanded wood. The booklet is for distribution on request.

A New Ditcher and Road Grader.

The ditcher and road grader here described and illustrated is a strong, solid and substantial machine constructed of steel bolted and riveted. It is simple and easy to operate, its size contributing to this facility of handling, and it can be turned on any road. It is known by the distinctive name of "Martin," and is made in six major models by the Owensboro Ditcher & Grader Co., Inc., Owensboro, Ky., of which W. A. Steele is president and general manager. The variations in size give a range of capacity equivalent to 12 different implements, so that purchasers can obtain just the kind of machine needed for any particular work in hand.

"MARTIN" DITCHER AND GRADER.

In many instances the Martin Ditcher and Road Grader can be used with only one man and a single team to work it, and its modest cost, combined with this adaptability, has induced in some cases each road district to have its own grader. With each district having its own machine, it is evident that more miles of road can be properly cared for than where reliance was placed on a single machine for an entire township. That this is borne out by actual experience, it may be mentioned that one county in Kentucky uses 25 machines, another 16, and still another 15, and a county in Alabama uses 18.

A circular issued by the manufacturer contains a number of letters from Kentucky, Alabama, Arkansas, Oklahoma, Mississippi, Texas, Missouri and other States indicating the utility and satisfaction of the grader, and it presents also a copy of the guarantee of the manufacturer, which is a money-back proposition. The work done by the machine is also shown by illustrations and descriptive matter.

Cotton Cloth and Leather Cloth.

P. P. Picot & Co., Ltd., Johannesburg, South Africa.

We should like you to put us in touch with a manufacturer of leather cloth similar to that of the Du Pont Fabrikoid representation in this country. Payments in New York through export houses, our remuneration to be in shape of commission or difference between price we sell at and price quoted by manufacturer. We are also desirous of forming a connection in a similar manner with a manufacturer of heavy cotton piece goods, denims, etc. Our Mr. Picot is leaving for New York by the next boat, and his address will be care the National Bank of South Africa, Ltd., New York.